













A N
E S S A Y
CONCERNING
HUMAN UNDERSTANDING.
IN FOUR BOOKS.

WRITTEN BY
JOHN LOCKE, Esq.
IN THREE VOLUMES.

VOLUME THE THIRD.

A NEW EDITION CORRECTED.

*As thou knowest not what is the way of the spirit, nor how
the bones do grow in the womb of her that is with child:
even so thou knowest not the works of GOD, who maketh all
things.*
Eccl. xi. 5.

*Quam bellum est velle cōsiteri potius nescire quod nescias,
quam ista cōsuetudinem nauseare, atque ipsum sibi displicere!*
CIC. de Nat. Deor. l. 1.

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O F

HUMAN UNDERSTANDING.

B O O K IV.

Of KNOWLEDGE and OPINION.

C H A P. I.

Of KNOWLEDGE in general.

§ 1. *Our knowledge conversant about our ideas.* § 2. *Knowledge is the perception of the agreement or disagreement of two ideas.* § 3. *This agreement fourfold.* § 4. *First, Of identity, or diversity.* § 5. *Secondly, Relative.* § 6. *Thirdly, Of co-existence.* § 7. *Fourthly, Of real existence.* § 8. *Knowledge actual or habitual.* § 9. *Habitual knowledge twofold.*

§ 1. **S**INCE the *mind*, in all its thoughts and reasonings, hath no other immediate object but its own ideas, which it alone does or can contemplate, it is evident, that our knowledge is only conversant about them.

§ 2. *Knowledge* then seems to me to be nothing but *the perception of the connection and agreement, or disagreement and repugnancy of any of our ideas.* In this alone it consists. Where this perception is, there is knowledge; and where it is not, there, though we may fancy, guess, or believe, yet we always come short of knowledge. For when we know that *white is not black*, what do we else but

perceive that these two ideas do not agree? when we possess ourselves with the utmost security of the demonstration, that the three angles of a triangle are equal to two right ones, what do we more but perceive, that equality to two right ones, does necessarily agree to, and is inseparable from, the three angles of a triangle? *

* The placing of certainty, as Mr Locke does, in the perception of the agreement or disagreement of our ideas, the bishop of Worcester suspects may be of dangerous consequence to that article of faith which he has endeavoured to defend; to which Mr Locke replies †: Since your lordship hath not, as I remember, shewn, or gone about to shew, how this proposition, viz. that certainty consists in the perception of the agreement or disagreement of two ideas, is opposite or inconsistent with *that article of faith, which your lordship has endeavoured to defend*: it is plain, it is but your lordship's fear that it may be of dangerous consequence to it; which, as I humbly conceive, is no proof that it is any way inconsistent with that article.

No-body, I think, can blame your lordship, or any one else, for being concerned for any article of the Christian faith: but if that concern (as it may, and as we know it has done) make any one apprehend danger, where no danger is; are we, therefore, to give up and condemn any proposition, because any one, though of the first rank and magnitude, fears *it may be of dangerous consequence* to any truth of religion, without shewing that it is so? If such fears be the measures whereby to judge of truth and falsehood, the affirming that there are antipodes would be still a heresy; and the doctrine of the motion of the earth must be rejected, as overthrowing the truth of the scripture: for of *that dangerous consequence* it has been apprehended to be, by many learned and pious divines, out of their

† In his 2d letter to the bishop of Worcester, p. 83, &c.

§ 3. But to understand a little more distinctly wherein this agreement or disagreement consists, I think we may reduce it all to these four sorts :

great concern for religion. And yet, notwithstanding those great apprehensions of *what dangerous consequence it might be*, it is now universally received by learned men, as an undoubted truth; and writ for by some, whose belief of the scriptures is not at all questioned; and particularly, very lately, by a divine of the church of England, with great strength of reason, in his wonderfully ingenious *New Theory of the earth*.

The reason your lordship gives of your fears, that *it may be of such dangerous consequence to that article of faith, which your lordship endeavours to defend*, though it occur in more places than one, is only this, *viz. that it is made use of by ill men to do mischief, i. e. to oppose that article of faith, which your lordship has endeavoured to defend*. But, my lord, if it be reason to lay by any thing as bad, because it is, or may be used to an ill purpose, I know not what will be innocent enough to be kept. Arms, which were made for our defence, are sometimes made use of to do *mischief*; and yet they are not thought of *dangerous consequence* for all that. No body lays by his sword and pistols, or thinks them of such *dangerous consequence* as to be neglected, or thrown away, because robbers, and the worst of men, sometimes make use of them, to take away honest mens lives or goods. And the reason is, because they were designed, and will serve to preserve them. And who knows but this may be the present case? If your lordship thinks, that placing of certainty in the perception of the agreement or disagreement of ideas, be to be rejected as false, because you apprehend *it may be of dangerous consequence to that article of faith*; on the other side, perhaps others, with me, may think it a defence against

1. Identity, or diversity.
2. Relation.
3. Co-existence, or necessary connection.
4. Real existence.

error, and so (as being of good use) to be received and adhered to.

I would not, my lord, be hereby thought to set up my own, or any one's judgment, against your lordship's. But I have said this only to shew, while the argument lies for or against the truth of any proposition, barely in an imagination that *it may be* of consequence to the supporting or overthrowing of any remote truth; it will be impossible, that way, to determine of the truth or falsehood of that proposition. For imagination will be set up against imagination, and the stronger probably will be against your lordship; the strongest imaginations being usually in the weakest heads. The only way, in this case, to put it past doubt, is to shew the inconsistency of the two propositions; and then it will be seen, that one overthrows the other; the true, the false one.

Your lordship says indeed, this is a *new method of certainty*. I will not say so myself, for fear of deserving a second reproof from your lordship, for being too forward to assume to myself the *honour of being an original*. But this, I think, gives me occasion, and will excuse me from being thought impertinent, if I ask your lordship, whether there be any other, or older *method of certainty*? and what it is? For if there be no other, no older than this, either this was always the *method of certainty*, and so mine is no *new* one; or else the world is obliged to me for this *new* one, after having been so long in the want of so necessary a thing as a *method of certainty*. If there be an older, I am sure your lordship cannot but know it; your condemning mine as *new*, as well as your thorough insight into antiquity, cannot but satisfy every body that you do. And therefore to set the

§ 4. *First*, As to the first sort of agreement or disagreement, viz. *Identity*, or *diversity*. It is the first act of the mind, when it has any sentiments or ideas at all, to perceive its ideas, and fo

world right in a thing of that great concernment, and to overthrow mine, and thereby prevent the *dangerous consequence* there is in my having unseasonably *started it*, will not, I humbly conceive, misbecome your lordship's care of *that article you have endeavoured to defend*, nor the good-will you bear to truth in general. For I will be answerable for myself that I shall; and I think I may be for all others, that they all will give off the placing of certainty in the perception of the agreement or disagreement of ideas, if your lordship will be pleased to shew that it lies in any thing else.

But truly, not to ascribe to myself an invention of what has been as old as knowledge is in the world, I must own I am not guilty of what your lordship is pleased to call *starting new methods of certainty*. Knowledge, ever since there has been any in the world, has consisted in one particular action of the mind; and so, I conceive, will continue to do to the end of it. And to *start new methods of knowledge, or certainty*, (for they are to me the same thing), i. e. to find out and propose new methods of attaining new knowledge, either with more ease and quickness, or in things yet unknown, is what I think no-body could blame: but this is not that which your lordship here means by *new methods of certainty*. Your lordship, I think, means by it, the placing of *certainty* in something, wherein either it does not consist, or else wherein it was not placed before now; if this were to be called a *new method of certainty*. As to the latter of these, I shall know whether I am guilty or no, when your lordship will do me the favour to tell me wherein it was placed before; which your lordship knows I professed myself ignorant of when I writ my book, and so I am still. But if *starting of new methods of cer-*

far as it perceives them, to know each what it is, and thereby also to perceive their difference, and that one is not another. This is so absolutely necessary, that without it there could be no know-

tainty be the placing of certainty in something wherein it does not consist; whether I have done that or no, I must appeal to the experience of mankind.

There are several actions of mens minds that they are conscious to themselves of performing, as *willing*, *believing*, *knowing*, &c. which they have so particular sense of, that they can distinguish them one from another; or else they could not say when they *willed*, when they *believed*, and when they *knew* any thing. But though these actions were different enough from one another, not to be confounded by those who spoke of them, yet no-body that I had met with, had, in their writings, particularly set down wherein the act of *knowing* precisely consisted.

To this reflection upon the actions of my own mind, the subject of my *essay concerning human understanding* naturally led me; wherein, if I have done any thing *new*, it has been to describe to others, more particularly than had been done before, what it is their minds do when they perform that action which they call *knowing*; and if, upon examination, they observe I have given a true account of that action of their minds in all the parts of it; I suppose it will be in vain to dispute against what they find and feel in themselves. And if I have not told them right and exactly what they find and feel in themselves, when their minds perform the act of knowing, what I have said will be all in vain; men will not be persuaded against their senses. Knowledge is an internal perception of their minds; and if, when they reflect on it, they find it is not what I have said it is, my groundless conceit will not be hearkened to, but be exploded by every body, and die of itself: and no body need to be at any pains to drive it out of the world. So impossible is it to

ledge, no reasoning, no imagination, no distinct thoughts at all. By this the mind clearly and infallibly perceives each idea to agree with itself, and to be what it is ; and all distinct ideas to dif-

find out, or start *new methods of certainty*, or to have them received, if any one places it in any thing, but in that wherein it really consists: much less can any one be in danger to be misled into error, by any such *new*, and to every one visibly senseless project. Can it be supposed, that any one could *start a new method of seeing*, and persuade men thereby, that they do not see what they do see ? Is it to be feared, that any one can cast such a mist over their eyes, that they should not know when they see, and so be led out of their way by it ?

Knowledge, I find in myself, and I conceive in others, consists in the perception of the agreement or disagreement of the immediate objects of the mind in thinking, which I call *ideas* : but whether it does so in others or no, must be determined by their own experience, reflecting upon the action of their mind in knowing ; for that I cannot alter, nor I think they themselves. But whether they will call those immediate objects of their minds in thinking, ideas or no, is perfectly in their own choice. If they dislike that name, they may call them *notions* or *conceptions*, or how they please ; it matters not, if they use them so as to avoid obscurity and confusion. If they are constantly used in the same and a known sense, every one has the liberty to please himself in his *terms* ; there lies neither truth, nor error, nor science, in that ; though those that take them for things, and not for what they are, bare arbitrary signs of our *ideas*, make a great deal of do often about them ; as if some great matter lay in the use of this or that sound. All that I know, or can imagine, of difference about them, is, that those words are always best, whose significations are best

agree, *i. e.* the one not to be the other : and this it does without pains, labour, or deduction ; but at first view, by its natural power of perception and distinction. And though men of art have re-

known in the sense they are used ; and so are least apt to breed confusion.

My lord, your lordship has been pleased to find fault with my use of the new *term*, *ideas*, without telling me a better name for the immediate objects of the mind in thinking. Your lordship also has been pleased to find fault with my definition of knowledge, without doing me the favour to give me a better. For it is only about my definition of knowledge, that all this stir concerning *certainty* is made. For with me, to know and be certain, is the same thing ; what I know, that I am certain of ; and what I am certain of, that I know. What reaches to knowledge, I think may be called certainty ; and what comes short of certainty, I think cannot be called knowledge ; as your lordship could not but observe in the 18th section of ch. 4. of my 4th book, which you have quoted.

My definition of knowledge stands thus : *Knowledge seems, to me, to be nothing but the perception of the connexion and agreement, or disagreement, and repugnancy of any of our ideas.* This definition your lordship dislikes, and apprehends it may be of dangerous consequence as to that article of Christian faith, which your lordship has endeavoured to defend. For this there is a very easy remedy : it is but for your lordship to set *aside* this definition of knowledge, by giving us a better, and this danger is over. But your lordship seems rather to have a controversy with my book, for having it in it, and to put me upon the defence of it ; for which I must acknowledge myself obliged to your lordship for affording me so much of your time, and for allowing me the honour of conversing so much with one so far above me in all respects.

duced this into those general rules, *What is, is; and it is impossible for the same thing to be, and not to be;* for ready application in all cases, wherein there may be occasion to reflect on it; yet it is

Your lordship says, *It may be of dangerous consequence to that article of Christian faith, which you have endeavoured to defend.* Though the laws of disputing allow bare denial as a sufficient answer to sayings, without any offer of a proof; yet, my lord, to shew how willing I am to give your lordship all satisfaction, in what you apprehend may be of *dangerous consequence* in my book, as to that article, I shall not stand still fullenly, and put your lordship upon the difficulty of shewing wherein that danger lies; but shall, on the other side, endeavour to shew your lordship that that definition of mine, whether true or false, right or wrong, can be of *no dangerous consequence to that article of faith.* The reason which I shall offer for it, is this; because it can be of no consequence to it at all.

That which your lordship is afraid it may be dangerous to, is an *article of faith*: that which your lordship labours and is concerned for, is the *certainty of faith.* Now, my lord, I humbly conceive the *certainty of faith*, if your lordship thinks fit to call it so, has nothing to do with the *certainty of knowledge.* And to talk of the *certainty of faith*, seems all one to me, as to talk of the knowledge of believing, a way of speaking not easy to me to understand.

Place knowledge in what you will, *start what new methods of certainty* you please, *that are apt to leave mens minds more doubtful than before;* place certainty on such grounds, as will leave little or no knowledge in the world. For these are the arguments your lordship uses against my definition of knowledge; this shakes not at all, nor in the least concerns the assurance of faith; this is quite distinct from it, neither stands nor falls with knowledge.

certain, that the first exercise of this faculty, is about particular ideas. A man infallibly knows, as soon as ever he has them in his mind, that the ideas he calls *white* and *round*, are the very ideas

Faith stands by itself, and upon grounds of its own; nor can be removed from them, and placed on those of knowledge. Their grounds are so far from being the same, or having any common, that when it is brought to *certainty*, *faith* is destroyed; it is knowledge then, and faith no longer.

With what assurance soever of believing, I assent to any *article of faith*, so that I stedfastly venture my all upon it, it is still but *believing*. Bring it to *certainty*, and it ceases to be *faith*. I believe that Jesus Christ was crucified, dead and buried, rose again the third day from the dead, and ascended into heaven: let now *such methods* of knowledge or *certainty*, be *stated*, as leave mens minds more doubtful than before: let the grounds of knowledge be resolved into what any one pleases, it touches not my *faith*; the foundation of that stands as sure as before, and cannot be at all shaken by it; and one may as well say, that any thing that weakens the sight, or casts a mist before the eyes, endangers the hearing; as that any thing which alters the nature of knowledge (if that could be done) should be of *dangerous consequence to an article of faith*.

Whether then I am or I am not mistaken, in the placing *certainty* in the perception of the agreement or disagreement of *ideas*; whether this account of knowledge be true or false, enlarges or straitens the bounds of it more than it should; *faith* still stands upon its own basis, which is not at all altered by it; and every article of that has just the same unmoved foundation, and the very same credibility, that it had before. So that, my lord, whatever I have said about certainty, and how much soever I may be out in it, if I am mistaken, your lordship has no reason to apprehend any *danger* to any *article of faith*, from thence;

they are ; and that they are not other ideas which he calls *red* or *square*. Nor can any maxim or proposition in the world, make him know it clearer or surer than he did before, and without any such general rule. This then is the first agreement or disagreement, which the mind perceives in its ideas ; which it always perceives at first sight : and if there ever happen any doubt about it, it will always be found to be about the names, and not the ideas themselves, whose identity and diversity will always be perceived, as soon and as clearly as the ideas themselves are ; nor can it possibly be otherwise.

§ 5. *Secondly*, The next sort of agreement, or disagreement, the mind perceives in any of its ideas, may, I think, be called *relative*, and is nothing but *the perception of the relation between any two ideas*, of what kind soever, whether substances, modes, or any other. For since all distinct ideas must eternally be known not to be the same, and so be universally and constantly denied one of another, there could be no room for any positive knowledge at all, if we could not perceive any relation between our ideas, and find out the agreement or disagreement they have one with another, in several ways the mind takes of comparing them.

§ 6. *Thirdly*, The third sort of agreement or disagreement to be found in our ideas, which the perception of the mind is employed about, is *co-existence*, or *non-co-existence*, in the same subject ;

every one of them stands upon the same bottom it did before, out of the reach of what belongs to knowledge and certainty. And thus much of my *way of certainty by ideas* ; which, I hope, will satisfy your lordship, how far it is from being *dangerous to any article of the Christian faith* whatsoever.

and this belongs particularly to substances. Thus when we pronounce concerning gold, that it is fixed, our knowledge of this truth amounts to no more but this, that fixedness, or a power to remain in the fire unconsumed, is an idea that always accompanies, and is joined with that particular sort of yellowness, weight, fusibility, malleableness, and solubility in *Aq. Regia*, which make our complex idea signified by the word *gold*.

§ 7. *Fourthly*, The fourth and last sort is, that of *actual and real existence* agreeing to any idea. Within these four sorts of agreement or disagreement, is, I suppose, contained all the knowledge we have, or are capable of: for all the inquiries that we can make concerning any of our ideas, all that we know or can affirm concerning any of them, is, that it is, or is not the same with some other; that it does, or does not always co-exist with some other idea in the same subject; that it has this or that relation with some other idea; or that it has a real existence without the mind. Thus *blue is not yellow*, is of identity. *Two triangles upon equal bases between two parallels are equal*, is of relation. *Iron is susceptible of magnetical impressions*, is of co-existence; *GOD is*, is of real existence. Though identity and co-existence are truly nothing but relations, yet they are so peculiar ways of agreement or disagreement of our ideas, that they deserve well to be considered as distinct heads, and not under relation in general; since they are so different grounds of affirmation and negation, as will easily appear to any one who will but reflect on what is said in several places of this essay. I should now proceed to examine the several degrees of our knowledge, but that it is necessary first

to consider the different acceptations of the word *knowledge*.

§ 8. There are several ways wherein the mind is possessed of truth; each of which is called *knowledge*.

1. There is *actual knowledge*, which is the present view the mind has of the agreement or disagreement of any of its ideas, or of the relation they have one to another.

2. A man is said to know any proposition, which having been once laid before his thoughts, he evidently perceived the agreement or disagreement of the ideas whereof it consists; and so lodged it in his memory, that whenever that proposition comes again to be reflected on, he, without doubt or hesitation, embraces the right side, assents to, and is certain of the truth of it. This, I think, one may call *habitual knowledge*: And thus a man may be said to know all those truths which are lodged in his memory, by a foregoing clear and full perception, whereof the mind is assured past doubt, as often as it has occasion to reflect on them. For our finite understandings being able to think clearly and distinctly but on one thing at once, if men had no knowledge of any more than what they actually thought on, they would all be very ignorant: and he that knew most, would know but one truth, that being all he was able to think on at one time.

§ 9. Of habitual knowledge, there are also, vulgarly speaking, two degrees:

First, The one is of such truths laid up in the memory, as whenever they occur to the mind, it actually perceives the relation is between those ideas. And this is in all those truths, whereof we have an intuitive knowledge, where the ideas

themselves, by an immediate view, discover their agreement or disagreement one with another.

Secondly, The other is of such truths, whereof the mind having been convinced, it retains the memory of the conviction, without the proofs. Thus a man that remembers certainly, that he once perceived the demonstration, that the three angles of a triangle are equal to two right ones, is certain that he knows it, because he cannot doubt of the truth of it. In his adherence to a truth, where the demonstration, by which it was at first known, is forgot, though a man may be thought rather to believe his memory, than really to know, and this way of entertaining a truth seemed formerly to me like something between opinion and knowledge, a sort of assurance which exceeds bare belief, for that relies on the testimony of another; yet upon a due examination, I find it comes not short of perfect certainty, and is in effect true knowledge. That which is apt to mislead our first thoughts into a mistake in this matter is, that the agreement or disagreement of the ideas in this case is not perceived, as it was at first, by an actual view of all the intermediate ideas, whereby the agreement or disagreement of those in the proposition was at first perceived; but by other intermediate ideas, that shew the agreement or disagreement of the ideas contained in the proposition whose certainty we remember. For example, in this proposition, that the three angles of a triangle are equal to two right ones, one who has seen and clearly perceived the demonstration of this truth, knows it to be true, when that demonstration is gone out of his mind; so that at present it is not actually in view, and possibly cannot be recollected; but he knows it in a

different way from what he did before. The agreement of the two ideas joined in that proposition is perceived, but it is by the intervention of other ideas than those which at first produced that perception. He remembers, *i. e.* he knows (for remembrance is but the reviving of some past knowledge) that he was once certain of the truth of this proposition, that the three angles of a triangle are equal to two right ones. The immutability of the same relations between the same immutable things, is now the idea that shews him, that if the three angles of a triangle were once equal to two right ones, they will always be equal to two right ones. And hence he comes to be certain, that what was once true in the case is always true; what ideas once agreed will always agree: and consequently what he once knew to be true he will always know to be true, as long as he can remember that he once knew it. Upon this ground it is, that particular demonstrations in mathematics afford general knowledge. If then the perception that the same ideas will eternally have the same habitudes and relations be not a sufficient ground of knowledge, there could be no knowledge of general propositions in mathematics; for no mathematical demonstration would be any other than particular: and when a man had demonstrated any proposition concerning one triangle or circle, his knowledge would not reach beyond that particular diagram. If he would extend it farther, he must renew his demonstration in another instance, before he could know it to be true in another like triangle, and so on: by which means one could never come to the knowledge of any general propositions. No-body, I think, can deny that Mr Newton certainly knows any pro-

position, that he now at any time reads in his book, to be true, though he has not in actual view that admirable chain of intermediate ideas, whereby he at first discovered it to be true. Such a memory as that, able to retain such a train of particulars, may be well thought beyond the reach of human faculties. When the very discovery, perception, and laying together that wonderful connection of ideas, is found to surpass most readers comprehension. But yet it is evident, the author himself knows the proposition to be true, remembering he once saw the connection of those ideas as certainly as he knows such a man wounded another, remembering that he saw him run him through. But because the memory is not always so clear as actual perception, and does in all men more or less decay in length of time, this amongst other differences is one, which shews, that *demonstrative knowledge* is much more imperfect than *intuitive*, as we shall see in the following chapter.

C H A P II.

Of the DEGREES of our KNOWLEDGE.

§ 1. *Intuitive.* § 2. *Demonstrative.* § 3. *Depends on proofs.* § 4. *But not so easy.* § 5. *Not without precedent doubt.* § 6. *Not so clear.* § 7. *Each step must have intuitive evidence.* § 8. *Hence the mistake, ex præcognitis et præconcessis.* § 9. *Demonstration not limited to quantity.* § 10—13. *Why it has been so thought.* § 14. *Sensitive knowledge of particular existence.* § 15. *Knowledge not always clear, where the ideas are so.*

§ 1. **A**LL our knowledge consisting, as I have said, in the view the mind has of its own ideas, which is the utmost light and greatest certainty, we with our faculties, and in our way of knowledge, are capable of, it may not be amiss to consider a little the degrees of its evidence. The different clearness of our knowledge seems to me to lie in the different way of perception the mind has of the agreement or disagreement of any of its ideas. For if we will reflect on our own ways of thinking, we shall find, that sometimes the mind perceives the agreement or disagreement of two ideas immediately by themselves, without the intervention of any other: and this, I think, we may call intuitive knowledge. For in this, the mind is at no pains of proving or examining, but perceives the truth, as the eye doth light, only by being directed toward it. Thus the mind perceives, that *white* is not *black*, that a *circle* is not

a *triangle*, that *three* are more than *two*, and equal to *one* and *two*. Such kind of truths the mind perceives at the first sight of the ideas together, by bare *intuition*, without the intervention of any other *idea*; and this kind of knowledge is the clearest, and most certain, that human frailty is capable of. This part of knowledge is irresistible, and like bright sunshine, forces itself immediately to be perceived, as soon as ever the mind turns its view that way; and leaves no room for hesitation, doubt, or examination, but the mind is presently filled with the clear light of it. It is on this intuition that depends all the certainty and evidence of all our knowledge, which certainty every one finds to be so great, that he cannot imagine, and therefore not require a greater: for a man cannot conceive himself capable of a greater certainty, than to know that any idea in his mind is such as he perceives it to be; and that two ideas, wherein he perceives a difference, are different, and not precisely the same. He that demands a greater certainty than this, demands he knows not what, and shews only that he has a mind to be a sceptic, without being able to be so. Certainty depends so wholly on this intuition, that in the next degree of *knowledge*, which I call *demonstrative*, this intuition is necessary in all the connections of the intermediate ideas, without which we cannot attain knowledge and certainty.

§ 2. The next degree of knowledge is, where the mind perceives the agreement or disagreement of any ideas, but not immediately. Though where-ever the mind perceives the agreement or disagreement of any of its ideas, there be certain knowledge; yet it does not always happen, that

the mind sees that agreement or disagreement which there is between them, even where it is discoverable; and in that case, remains in ignorance, and at most, gets no farther than a probable conjecture. The reason why the mind cannot always perceive presently the agreement or disagreement of two ideas is, because those ideas, concerning whose agreement or disagreement the inquiry is made, cannot by the mind be so put together, as to shew it. In this case then, when the mind cannot so bring its ideas together, as by their immediate comparison, and as it were juxtaposition, or application one to another, to perceive their agreement or disagreement, it is fain, by the intervention of other ideas (one or more, as it happens) to discover the agreement or disagreement which it searches: and this is that which we call reasoning. Thus the mind being willing to know the agreement or disagreement in bigness, between the three angles of a triangle, and two right ones, cannot by an immediate view and comparing them do it: because the three angles of a triangle cannot be brought at once, and be compared with any one or two angles; and so of this the mind has no immediate, no intuitive knowledge. In this case the mind is fain to find out some other angles, to which the three angles of a triangle have an equality; and finding those equal to two right ones, comes to know their equality to two right ones.

§ 3. Those intervening ideas, which serve to shew the agreement of any two others, are called proofs; and where the agreement or disagreement is by this means plainly and clearly perceived, it is called demonstration, it being shewn to the understanding, and the mind made to see that it is so.

A quickness in the mind to find out these intermediate ideas, (that shall discover the agreement or disagreement of any other) and to apply them right, is, I suppose, that which is called sagacity.

§ 4. This knowledge by intervening proofs, though it be certain, yet the evidence of it is not altogether so clear and bright, nor the assent so ready, as in intuitive knowledge. For though in demonstration, the mind does at last perceive the agreement or disagreement of the ideas it considers; yet it is not without pains and attention; there must be more than one transient view to find it. A steady application and pursuit is required to this discovery: and there must be a progression by steps and degrees, before the mind can in this way arrive at certainty, and come to perceive the agreement or repugnancy between two ideas that need proofs and the use of reason to shew it.

§ 5. Another difference between intuitive and demonstrative knowledge, is, that though in the latter all doubt be removed, when by the intervention of the intermediate ideas the agreement or disagreement is perceived; yet before the demonstration there was a doubt, which in intuitive knowledge cannot happen to the mind that has its faculty of perception left to a degree capable of distinct ideas, no more than it can be a doubt to the eye, (that can distinctly see white and black) whether this ink and this paper be all of a colour. If there be sight in the eyes, it will at first glimpse, without hesitation, perceive the words printed on this paper, different from the colour of the paper: and so if the mind have the faculty of distinct perceptions, it will perceive the agreement or disagreement of those ideas that produce intuitive knowledge. If the eyes have lost the faculty of

seeing, or the mind of perceiving, we in vain inquire after the quickness of sight in one, or clearness of perception in the other.

§ 6. It is true, the perception, produced by demonstration, is also very clear; yet it is often with a great abatement of that evident lustre and full assurance, that always accompany that which I call intuitive, like a face reflected by several mirrors one to another, where as long as it retains the similitude and agreement with the object, it produces a knowledge; but it is still in every successive reflection, with a lessening of that perfect clearness and distinctness, which is in the first, till at last, after many removes, it has a great mixture of dimness, and is not at first sight so knowable, especially to weak eyes. Thus it is with knowledge, made out by a long train of proofs.

§ 7. Now, in every step reason makes in demonstrative knowledge, there is an intuitive knowledge of that agreement or disagreement it seeks with the next intermediate idea, which it uses as a proof: for if it were not so, that yet would need a proof. Since without the perception of such agreement or disagreement, there is no knowledge produced: if it be perceived by itself, it is intuitive knowledge: if it cannot be perceived by itself, there is need of some intervening idea, as a common measure to shew their agreement or disagreement. By which it is plain, that every step in reasoning, that produces knowledge, has intuitive certainty; which when the mind perceives, there is no more required, but to remember it, to make the agreement or disagreement of the ideas, concerning which we inquire, visible and certain. So that to make any thing a demonstration, it is necessary to perceive the immediate agreement of the

intervening ideas, whereby the agreement or disagreement of the two ideas under examination (whereof the one is always the first, and the other the last, in the account) is found. This intuitive perception of the agreement or disagreement of the intermediate ideas, in each step and progression of the demonstration, must also be carried exactly in the mind, and a man must be sure that no part is left out; which, because in long deductions, and the use of many proofs, the memory does not always so readily and exactly retain: therefore it comes to pass, that this is more imperfect than intuitive knowledge, and men embrace often falsehood for demonstrations.

§ 8. The necessity of this intuitive knowledge, in each step of scientific or demonstrative reasoning, gave occasion, I imagine, to that *mistaken axiom*, that *all reasoning was ex præcognitis et præconcessis*: which how far it is mistaken, I shall have occasion to shew more at large, when I come to consider propositions, and particularly those propositions which are called maxims; and to shew that it is by a mistake, that they are supposed to be the foundations of all our knowledge and reasonings.

§ 9. It has been generally taken for granted, that mathematics alone are capable of demonstrative certainty: but to have such an agreement or disagreement, as may intuitively be perceived, being, as I imagine, not the privilege of the ideas of number, extension, and figure alone, it may possibly be the want of due method and application in us, and not of sufficient evidence in things, that demonstration has been thought to have so little to do in other parts of knowledge, and been scarce so much as aimed at by any but mathema-

ticians. For whatever ideas we have, wherein the mind can perceive the immediate agreement or disagreement that is between them, there the mind is capable of intuitive knowledge; and where it can perceive the agreement or disagreement of any two ideas, by an intuitive perception of the agreement or disagreement they have with any intermediate ideas, there the mind is capable of demonstration, which is not limited to ideas of extension, figure, number, and their modes.

§ 10. The reason why it has been generally sought for, and supposed to be only in those, I imagine has been, not only the general usefulness of those sciences; but because, in comparing their equality or excess, the modes of numbers have every the least difference very clear and perceivable: and though in extension, every the least excess is not so perceptible; yet the mind has found out ways to examine and discover demonstratively the just equality of two angles, or extensions, or figures, and both these, *i. e.* numbers and figures, can be set down by visible and lasting marks, wherein the ideas under consideration are perfectly determined, which for the most part they are not, where they are marked only by names and words.

§ 11. But in other simple ideas, whose modes and differences are made, and counted by degrees, and not quantity, we have not so nice and accurate a distinction of their differences, as to perceive and find ways to measure their just equality or the least differences. For those other simple ideas, being appearances or sensations, produced in us by the size, figure, number, and motion of minute corpuscles singly insensible, their different degrees also depend upon the variation of some or

all of those causes ; which since it cannot be observed by us in particles of matter, whereof each is too subtile to be perceived, it is impossible for us to have any exact measures of the different degrees of these simple ideas. For supposing the sensation or idea we name whiteness, be produced in us by a certain number of globules, which having a verticity about their own centres, strike upon the retina of the eye, with a certain degree of rotation, as well as progressive swiftness; it will hence easily follow, that the more the superficial parts of any body are so ordered, as to reflect the greater number of globules of light, and to give them the proper rotation, which is fit to produce this sensation of white in us, the more white will that body appear, that from an equal space sends to the retina the greater number of such corpuscles, with that peculiar sort of motion. I do not say, that the nature of light consists in very small round globules, nor of whiteness, in such a texture of parts as gives a certain rotation to these globules, when it reflects them ; for I am not now treating physically of light or colours: but this, I think, I may say, that I cannot (and I would be glad any one would make intelligible that he did) conceive how bodies without us can any ways affect our senses, but by the immediate contact of the sensible bodies themselves, as in tasting and feeling, or the impulse of some insensible particles coming from them, as in seeing, hearing, and smelling;—by the different impulse of which parts, caused by their different size, figure, and motion, the variety of sensations is produced in us.

§ 12. Whether then they be globules, or no ; or whether they have a verticity about their own centres, that produce the idea of whiteness in us,

this is certain, that the more particles of light are reflected from a body, fitted to give them that peculiar motion, which produces the sensation of whiteness in us; and possibly too, the quicker that peculiar motion is, the whiter does the body appear, from which the greater number are reflected, as is evident in the same piece of paper put in the sun-beams, in the shade, and in a dark hole; in each of which, it will produce in us the idea of whiteness in far different degrees.

§ 13. Not knowing therefore what number of particles, nor what motion of them is fit to produce any precise degree of whiteness, we cannot demonstrate the certain equality of any two degrees of whiteness, because we have no certain standard to measure them by, nor means to distinguish every the least real difference, the only help we have being from our senses, which in this point fail us. But where the difference is so great, as to produce in the mind clearly distinct ideas, whose differences can be perfectly retained, there these ideas or colours, as we see in different kinds, as blue and red, are as capable of demonstration, as ideas of number and extension. What I have here said of whiteness and colours, I think, holds true in all secondary qualities, and their modes.

§ 14. These two, *viz.* intuition and demonstration, are the degrees of our knowledge; whatever comes short of one of these, with what assurance soever embraced, is but faith, or opinion, but not knowledge, at least in all general truths. There is, indeed, another *perception* of the mind, employed about *the particular existence of finite beings* without us; which going beyond bare probability, and yet not reaching perfectly to either of the foregoing degrees of certainty, passes under the name of knowledge. There

can be nothing more certain, than that the idea we receive from an external object is in our minds; this ~~is~~ intuitive knowledge. But whether there be any thing more than barely that idea in our minds, whether we can thence certainly infer the existence of any thing without us, which corresponds to that idea, is that, whereof some men think there may be a question made, because men may have such ideas in their minds, when no such thing exists, no such object affects their senses. But yet here, I think, we are provided with an evidence, that puts us past doubting: for I ask any one, whether he be not invincibly conscious to himself of a different perception, when he looks on the sun by day, and thinks on it by night; when he actually tastes wormwood, or smells a rose, or only thinks on that favour, or odour? We as plainly find the difference there is between any idea revived in our minds by our own memory, and actually coming into our minds by our senses, as we do between any two distinct ideas. If any one say, a dream may do the same thing, and all these ideas may be produced in us without any external objects, he may please to dream that I make him this answer: 1. That it is no great matter, whether I remove this scruple, or no: where all is but dream, reasoning and arguments are of no use; truth and knowledge nothing. 2. That I believe he will allow a very manifest difference between dreaming of being in the fire, and being actually in it. But yet if he be resolved to appear so sceptical, as to maintain, that what I call being actually in the fire, is nothing but a dream; and that we cannot thereby certainly know, that any such thing as fire actually exists without us: I answer, that we certainly finding, that pleasure or pain follows upon the application of certain objects

to us, whose existence we perceive, or dream that we perceive, by our senses; this certainty is as great as our happiness or misery, beyond which, we have no concernment to know, or to be. So that, I think, we may add to the two former sorts of knowledge, this also, of the existence of particular external objects, by that perception and consciousness we have of the actual entrance of ideas from them, and allow these three degrees of knowledge, viz. *intuitive*, *demonstrative*, and *sensitive*: in each of which, there are different degrees and ways of evidence and certainty.

§ 15. But since our knowledge is founded on, and employed about our ideas only, will it not follow from thence, that it is conformable to our ideas; and that where our ideas are clear and distinct, or obscure and confused, our knowledge will be so too? To which I answer, no; for our knowledge consisting in the perception of the agreement or disagreement of any two ideas, its clearness or obscurity consists in the clearness or obscurity of that perception, and not in the clearness or obscurity of the ideas themselves: *v. g.* a man that has as clear ideas of the angles of a triangle, and of equality to two right ones, as any mathematician in the world, may yet have but a very obscure perception of their agreement, and so have but a very obscure knowledge of it. But ideas which by reason of their obscurity or otherwise, are confused, cannot produce any clear or distinct knowledge; because as far as any ideas are confused, so far the mind cannot perceive clearly, whether they agree or disagree. Or to express the same thing in a way less apt to be misunderstood. He that hath not determined ideas to the words he uses, cannot make propositions of them, of whose truth he can be certain.

C H A P. III.

Of the EXTENT of HUMAN KNOWLEDGE.

1. *First, no farther than we have ideas.* § 2. *Secondly, no farther than we can perceive their agreement or disagreement.* § 3. *Thirdly, Intuitive knowledge extends itself not to all the relations of all our ideas.* § 4. *Fourthly, Nor demonstrative knowledge.* § 5. *Fifthly, Sensitive knowledge narrower than either.* § 6. *Sixthly, Our knowledge therefore narrower than our ideas.* § 7. *How far our knowledge reaches.* § 8. *First, Our knowledge of identity and diversity, as far as our ideas.* § 9. *Secondly, Of co-existence a very little way.* § 10. *Because the connection between most simple ideas is unknown.* § 11. *Especially of secondary qualities.* § 12—14. *Because all connection between any secondary and primary qualities is undiscoverable.* § 15. *Of repugnancy to co-existence, larger.* § 16. *Of the co-existence of powers a very little way.* § 17. *Of spirits yet narrower.* § 18. *Thirdly, Of other relations it is not easy to say how far. Morality capable of demonstration.* § 19. *Two things have made moral ideas thought incapable of demonstration. Their complexedness, and want of sensible representations.* § 20. *Remedies of those difficulties.* § 21. *Fourthly, Of real existence we have an intuitive knowledge of our own; demonstrative of God's; sensitive of some few other things.* § 22. *Our ignorance great.* § 23. *First one cause of it, want of ideas, either such as we have no conception of, or such as particu-*

larly we have not. § 24. *Because of their remoteness; or,* § 25. *Because of their minuteness.* § 26. *Hence no science of bodies.* § 27. *Much less of spirits.* § 28. *Secondly, Want of a discoverable connection between ideas we have.* § 29. *Instances.* § 30. *Thirdly, want of tracing our ideas.* § 31. *Extent in respect of universality.*

§ 1. **K**NOWLEDGE, as has been said, lying in the perception of the agreement or disagreement of any of our ideas, it follows from hence, that,

First, We can have knowledge no farther than we have ideas.

§ 2. *Secondly,* That we have no knowledge farther than we can have perception of their agreement or disagreement: which perception being, 1. Either by *intuition*, or the immediate comparing any two ideas; or, 2. By *reason*, examining the agreement or disagreement of two ideas, by the intervention of some others: or, 3. By *sensation*, perceiving the existence of particular things: hence it also follows,

§ 3. *Thirdly,* That we cannot have an *intuitive knowledge*, that shall extend itself to all our ideas, and all that we would know about them; because we cannot examine and perceive all the relations they have one to another by juxtaposition, or an immediate comparison one with another. Thus having the ideas of an obtuse and an acute angled triangle, both drawn from equal bases, and between parallels, I can, by intuitive knowledge, perceive the one not to be the other; but cannot that way know, whether they be equal or no; because their agreement or disagreement, in equa-

tity, can never be perceived by an immediate comparing them : the difference of figure makes their parts incapable of an exact immediate application ; and therefore there is need of some intervening quantities to measure them by, which is demonstration or rational knowledge.

§ 4. *Fourthly*, It follows also, from what is above observed, that our rational knowledge cannot reach to the whole extent of our ideas : because between two different ideas we would examine, we cannot always find such mediums, as we can connect one to another with an intuitive knowledge, in all the parts of the deduction ; and where-ever that fails, we come short of knowledge and demonstration.

§ 5. *Fifthly*, *Sensitive knowledge*, reaching no farther than the existence of things actually present to our senses, is yet much narrower than either of the former.

§ 6. From all which it is evident, that the extent of our knowledge comes not only short of the reality of things, but even of the extent of our own ideas. Though our knowledge be limited to our ideas, and cannot exceed them either in extent or perfection ; and though these be very narrow bounds, in respect of the extent of all-being, and far short of what we may justly imagine to be in some even created understandings, not tied down to the dull and narrow information, is to be received from some few, and not very acute ways of perception, such as are our senses : yet it would be well with us, if our knowledge were but as large as our ideas, and there were not many doubts and inquiries concerning the ideas we have, whereof we are not, nor, I believe, ever shall be in this world, resolved. Nevertheless, I do

not question, but, that human knowledge, under the present circumstances of our beings and constitutions may be carried much farther, than it hitherto has been, if men would sincerely, and with freedom of mind, employ all that industry and labour of thought, in improving the means of discovering truth, which they do for the colouring or support of falsehood, to maintain a system, interest, or party, they are once engaged in. But yet after all, I think I may, without injury to human perfection, be confident, that our knowledge would never reach to all we might desire to know concerning those ideas we have ; nor be able to surmount all the difficulties, and resolve all the questions, might arise concerning any of them. We have the ideas of a *square*, a *circle*, and *equality* ; and yet, perhaps, shall never be able to find a circle equal to a square, and certainly know that it is so. We have the ideas of *matter* and *thinking* *, but possibly shall never be able to know, whether any mere material being thinks, or no ;

* Against that assertion of Mr Locke, *That possibly we shall never be able to know whether any material beings think or not*, &c. the bishop of Worcester argues thus : *If this be true, then for all that we can know by our ideas of matter and thinking, matter may have a power of thinking ; and if this hold, then it is impossible to prove a spiritual substance in us, from the idea of thinking : for how can we be assured by our ideas, that God hath not given such a power of thinking, to matter so disposed as our bodies are ? Especially since it is said *, ' That in respect of our notions, it is not much more remote from our comprehension to conceive that God can, if he pleases, su-*

* Essay of human understanding, book iv. ch. 3 § 6.

it being impossible for us, by the contemplation of our own ideas, without revelation, to discover whether omnipotency has not given to some systems of matter, fitly disposed, a power to perceive

‘ peradd to our idea of matter a faculty of thinking, ‘ than that he should superadd to it another substance, ‘ with a faculty of thinking.’ Whoever asserts this, can never prove a spiritual substance in us from a faculty of thinking; because he cannot know from the idea of matter and thinking, that matter, so disposed, cannot think. And he cannot be certain, that God hath not framed the matter of our bodies so as to be capable of it.

To which Mr Locke answers thus *: Here your lordship argues, that, upon my principles, *it cannot be proved, that there is a spiritual substance in us.* To which give me leave, with submission, to say, that I think it may be proved from my principles. And I think I have done it; and the proof in my book stands thus. First, We experiment in ourselves thinking. The idea of this action, or mode of *thinking*, is inconsistent with the idea of self-subsistence, and therefore has a necessary connection with a support or subject of inhesion: the idea of that support is what we call *substance*; and so from *thinking* experimented in us, we have a proof of a *thinking substance* in us, which, in my sense, is a *spirit*. Against this your lordship will argue, that by what I have said of the possibility that God may, if he pleased, superadd to matter a faculty of thinking, it can never be proved that there is a spiritual substance in us, because, upon that supposition, it is possible it may be a material substance that thinks in us. I grant it; but add, that the general idea of substance being the same every-where, the modification of *thinking*, or the power of *thinking* joined

* In his first letter to the bishop of Worcester, p. 64, 65. &c.

and think, or else joined or fixed to matter, so disposed, a thinking immaterial substance: it being, in respect of our notions, not much more remote from our comprehension to conceive, that

to it, makes it a *spirit*, without considering what other modifications it has, as, whether it has the modification of *solidity*, or no. As on the other side *substance*, that has the modification of *solidity*, is matter, whether it has the modification of thinking or no. And therefore, if your lordship means by a *spiritual*, an immaterial substance, I grant I have not proved, nor upon my principles can it be proved, your lordship meaning, as I think you do, demonstratively proved, that there is an immaterial substance in us that thinks. Though, I presume, from what I have said * about the supposition of a system of matter, thinking (which there demonstrates that God is immaterial) will *prove* it in the highest degree probable, that the thinking substance in us is immaterial. But your lordship thinks not probability enough, and by charging the want of demonstration upon my principles, that the thinking thing in us is immaterial, your lordship seems to conclude it demonstrable from principles of philosophy. That demonstration I should with joy receive from your lordship, or any one. For though all the great ends of morality and religion are well enough secured without it, as I have shewn †, yet it would be a great advance of our knowledge in nature and philosophy.

To what I have said in my book, to shew that all the great ends of religion and morality are secured barely by the immortality of the soul, without a necessary supposition that the soul is immaterial, I crave leave to add, that immortality may and shall be annexed to that, which, in its own nature, is neither im-

* Book iv. ch. 10. § 16.

† Book iv. ch. 3. § 6.

GOD can, if he pleases, superadd to matter a faculty of thinking, than that he should superadd to it another substance, with a faculty of thinking; since we know not wherein thinking consists,

material nor immortal, as the apostle expressly declares in these words *, *For this corruptible must put on incorruption, and this mortal must put on immortality.*

Perhaps my using the word *spirit* for a thinking substance, without excluding materiality out of it, will be thought too great a liberty, and such as deserves a censure, because I leave immateriality out of the idea I make it a sign of. I readily own, that words should be sparingly ventured on in a sense wholly new; and nothing but absolute necessity can excuse the boldness of using any term, in a sense whereof we can produce no example. But in the present case, I think, I have great authorities to justify me. The soul is agreed, on all hands, to be that in us which thinks. And he that will look into the first book of Cicero's *Tusculan Questions*, and into the sixth book of Virgil's *Æneid*, will find that these two great men, who, of all the Romans, best understood philosophy, thought, or at least did not deny the soul to be a subtil matter, which might come under the name of *aura*, or *ignis*, or *æther*, and this soul they both of them called *spiritus*; in the notion of which, it is plain they included only thought and active motion, without the total exclusion of matter. Whether they thought right in this I do not say, that is not the question; but whether they spoke properly, when they called an active, thinking, subtil substance, out of which they excluded only gross and palpable matter, *spiritus*, *spirit*. I think that no body will deny, that if any among the Romans can be allowed to speak properly, Tully and Virgil are the two who may most securely be depended

nor to what sort of substances the Almighty has been pleased to give that power, which cannot be in any created being, but merely by the good pleasure and bounty of the Creator. For I see

on for it : and one of them, speaking of the soul, says,

Dum spiritus hos regit artus ;

and the other, *Vita continetur corpore et spiritu*. Where it is plain by *corpus*, he means, as generally every-where, only gross matter that may be felt and handled, as appears by these words, *Si cor aut sanguis, aut cerebrum est animus, certe, quoniam est corpus, interibit cum reliquo corpore, si anima est, forte dissipabitur, si ignis extinguetur* *. Here Cicero opposes *corpus* to *ignis* and *anima*, i. e. *aura* or *breath*. And the foundation of that his distinction of the soul, from that which he calls *corpus* or *body*, he gives a little lower in these words, *Tanta ejus tenuitas ut fugiat aciem* †. Nor was it the heathen world alone that had this notion of *spirit* ; the most enlightened of all the antient people of GOD, Solomon himself ‡, speaks after the same manner, *That which befalleth the sons of men, befalleth the beasts, even one thing befalleth them ; as the one dieth, so dieth the other, yea, they have all one spirit*. So I translate the Hebrew word רוח here, for so I find it translated the very next verse but one §, *Who knoweth the spirit of a man that goeth upward, and the spirit of a beast that goeth down to the earth*. In which places it is plain that Solomon applies the word רוח, and our translators of him the word *spirit* to a substance, out of which immateriality was not wholly excluded, *unless the spirit of a beast that goeth downwards to the earth be immaterial*. Nor did the way of speaking in our Saviour's time vary from this : St Luke tells us ††, that when our Saviour, af-

* Tusc. Quæst. lib. i. cap. 11.

† Ibid. cap. 21.

‡ Eccl. iii. 19.

§ Ver. 21.

†† Chap. xxiv. 37.

no contradiction in it, that the first eternal thinking Being should, if he pleased, give to certain systems of created senseless matter, put together as he thinks fit, some degrees of sense, percep-

ter his resurrection, stood in the midst of them, *they were affrighted, and supposed they had seen πνευμα*, the Greek word which always answers *spirit* in English; and so the translators of the Bible render it here, *They supposed that they had seen a spirit*. But our Saviour says to them, *Behold my hands and my feet, that it is I myself, handle me and see; for a spirit hath no flesh and bones, as you see me have*. Which words of our Saviour put the same distinction between *body* and *spirit*, that Cicero did, in the place above cited, *viz.* that the one was a gross *compages* that could be felt and handled; and the other such as Virgil * describes the ghost or soul of Anchises.

Ter conatus ibi collo dare brachia circum:

Ter frustra comprehensa manus effugit imago,

Par levibus ventis volucrique simillima somno.

I would not be thought hereby to say, that *spirit* never does signify a purely immaterial substance. In that sense the scripture, I take it, speaks, when it says, *God is a spirit*; and in that sense I have used it; and in that sense I have proved from my principles, that there is a *spiritual substance*; and am certain that there is a *spiritual immaterial substance*: which is, I humbly conceive, a direct answer to your lordship's question in the beginning of this argument, *viz.* *How we come to be certain that there are spiritual substances, supposing this principle to be true*, that the simple ideas by sensation and reflection are the sole matter and foundation of all our reasoning? But this hinders not, but that if God, that infinite, omnipotent, and perfectly immaterial spirit, should please to give to a system of very subtile matter,

* Lib. vi.

tion, and thought: though, as I think, I have proved*, it is no less than a contradiction to suppose matter (which is evidently in its own nature void of sense and thought) should be that eternal

sense, and motion, it might, with propriety of speech, be called *spirit*; though materiality were not excluded out of its complex idea. Your lordship proceeds, *It is said indeed elsewhere †, 'That it is repugnant to ' the idea of senseless matter, that it should put into it- ' self sense, perception, and knowledge.'* But this doth not reach the present case; which is not what matter can do of itself, but what matter prepared by an omnipotent hand can do. And what certainty can we have that he hath not done it? We can have none from the ideas, for these are given up in this case, and consequently we can have no certainty, upon these principles, whether we have any spiritual substance within us or not.

Your lordship, in this paragraph, proves, that from what I say, *We can have no certainty whether we have any spiritual substance in us or not.* If, by *spiritual substance*, your lordship means an *immaterial substance* in us, as you speak ‡, I grant what your lordship says is true, that it cannot, upon *these principles*, be demonstrated. But I must crave leave to say, at the same time, that upon *these principles*, it can be proved, to the highest degree of probability. If, by *spiritual substance*, your lordship means a *thinking substance*, I must dissent from your lordship, and say, *That we can have a certainty, upon my principles, that there is a spiritual substance in us.* In short, my lord, upon *my principles*, i. e. from the idea of *thinking*, we can have a certainty, that there is a *thinking substance in us*; from hence we have a certainty that there is an eternal *thinking substance*. This think-

* Lib. iv. c. 10. † Book iv. ch. 13. § 5. ‡ P. 246.

first thinking being. What certainty of knowledge can any one have that some perceptions, such as, *v. g.* pleasure and pain, should not be in some bodies themselves, after a certain manner modifi-

ing substance, which has been from eternity, I have proved to be *immaterial*. This eternal, immaterial, thinking substance, has put into us a thinking substance, which, whether it be a material or immaterial substance, cannot be infallibly demonstrated from our ideas; though from them it may be proved that it is to the highest degree probable that it is immaterial.

Again, the bishop of Worcester undertakes to prove from Mr Locke's principles, that we may be certain, *That the first eternal thinking Being or omnipotent Spirit cannot, if he would, give to certain systems of created sensible matter, put together as he sees fit, some degrees of sense, preception, and thought.*

To which Mr Locke has made the following answer, in his third letter †.

Your first argument I take to be this, that according to me, the knowledge we have being by our ideas, and our idea of matter in general being a solid substance, and our idea of body a solid, extended, figured substance; if I admit matter to be capable of thinking, I confound the idea of matter with the idea of a spirit: to which I answer, No; no more than I confound the idea of matter with the idea of an horse, when I say that matter, in general, is a *solid extended substance*; and that an horse is a material animal, or an extended solid substance, with sense and spontaneous motion.

The idea of matter is an extended solid substance; where-ever there is such a substance, there is matter, and the essence of matter, whatever other qualities, not contained in that essence, it shall please God to

† Page 396, 367, &c.

ed and moved, as well as that they should be in an immaterial substance, upon the motion of the parts of body? Body, as far as we can conceive, being able only to strike and affect body; and

superadd to it. For example, God creates an extended solid substance, without the superadding any thing else to it, and so we may consider it at rest; to some parts of it he superadds motion, but it has still the essence of matter: other parts of it he frames into plants, with all the excellencies of vegetation, life, and beauty, which is to be found in a rose or a peach-tree, &c. above the essence of matter in general, but it is still but matter: to other parts he adds sense and spontaneous motion, and those other properties that are to be found in an elephant. Hitherto it is not doubted but the power of God may go, and that the properties of a rose, a peach, or an elephant, superadded to matter, change not the properties of matter; but matter is in these things matter still. But if one venture to go one step farther, and say, God may give to matter, thought, reason, and volition, as well as sense and spontaneous motion, there are men ready presently to limit the power of the omnipotent Creator, and tell us, he cannot do it; because it destroys the essence, or *changes the essential properties* of matter. To make good which assertion they have no more to say, but that thought and reason are not included in the essence of matter. I grant it; but whatever excellency, not contained in its essence, be superadded to matter, it does not destroy the essence of matter, if it leaves it an extended solid substance; where-ever that is, there is the essence of matter; and if every thing of greater perfection, superadded to such a substance, destroys the essence of matter, what will become of the essence of matter in a plant, or an animal, whose properties far exceed those of a mere extended solid substance?

motion, according to the utmost reach of our ideas, being able to produce nothing but motion; so that when we allow it to produce pleasure or pain, or the idea of colour or sound, we are fain

But it is farther urged, that we cannot conceive how matter can think. I grant it: but to argue from thence, that God therefore cannot give to matter a faculty of thinking, is to say God's omnipotency is limited to a narrow compass, because man's understanding is so; and brings down God's infinite power to the size of our capacities. If God can give no power to any parts of matter, but what men can account for from the essence of matter in general; if all such qualities and properties must destroy the essence, or *change the essential properties* of matter, which are to our conceptions above it, and we cannot conceive to be the natural consequence of that essence; it is plain, that the essence of matter is destroyed, and its *essential properties changed* in most of the sensible parts of this our system: for it is visible, that all the planets have revolutions about certain remote centres, which I would have any one explain, or make conceivable by the bare essence or natural powers depending on the essence of matter in general, without something added to that essence, which we cannot conceive; for the moving of matter in a crooked line, or the attraction of matter by matter, is all that can be said in the case; either of which it is above our reach to derive from the essence of matter or body in general; though one of these two must unavoidably be allowed be superadded in this instance to the essence of matter in general. The omnipotent Creator advised not with us in the making of the world, and his ways are not the less excellent because they are past our finding out.

In the next place, the vegetable part of the creation is not doubted to be wholly material; and yet he that will look into it, will observe excellencies and

to quit our reason, go beyond our ideas, and attribute it wholly to the good pleasure of our Maker. For since we must allow he has annexed effects to motion, which we can no way conceive

operations in this part of matter, which he will not find contained in the essence of matter in general, nor be able to conceive how they can be produced by it. And will he therefore say, that the essence of matter is destroyed in them, because they have properties and operations not contained in the essential properties of matter as matter, nor explicable by the essence of matter in general?

Let us advance one step farther, and we shall in the animal world meet with yet greater perfections and properties, no ways explicable by the essence of matter in general. If the omnipotent Creator had not superadded to the earth, which produced the irrational animals, qualities far surpassing those of the dull dead earth, out of which they were made life, sense, and spontaneous motion, nobler qualities than were before in it, it had still remained rude senseless matter; and if to the individuals of each species, he had not superadded a power of propagation, the species had perished with those individuals: but by these essences or properties of each species, superadded to the matter which they were made of, the essence or properties of matter in general were not destroyed or changed, any more than any thing that was in the individuals before, was destroyed or changed by the power of generation, superadded to them by the first benediction of the Almighty.

In all such cases, the superinducement of greater perfections and nobler qualities, destroys nothing of the essence or perfections that were there before; unless there can be shewed a manifest repugnancy between them: but all the proof offered for that, is only, that we cannot conceive how matter, without such

motion able to produce, what reason have we to conclude, that he could not order them as well to be produced in a subject we cannot conceive capable of them, as well as in a subject we cannot

superadded perfections, can produce such effects; which is, in truth, no more than to say, matter in general, or every part of matter, as matter, has them not; but is no reason to prove, that God, if he pleases, cannot superadd them to some parts of matter, unless it can be proved to be a contradiction that God should give to some parts of matter qualities and perfections, which matter in general has not; though we cannot conceive how matter is invested with them, or how it operates by virtue of those new endowments. Nor is it to be wondered that we cannot, whilst we limit all its operations to those qualities it had before, and would explain them by the known properties of matter in general, without any such superinduced perfections. For if this be a right rule of reasoning, to deny a thing to be, because we cannot conceive the manner how it comes to be: I shall desire them who use it, to stick to this rule, and see what work it will make both in divinity as well as philosophy; and whether they can advance any thing more in favour of *scepticism*?

For to keep within the present subject of the power of thinking and self-motion, bestowed by omnipotent power on some parts of matter: the objection to this is, I cannot conceive how matter should think: what is the consequence? *ergo*, God cannot give it a power to think. Let this stand for a good reason, and then proceed in other cases by the same. You cannot conceive how matter can attract matter at any distance, much less at the distance of 1,000,000 miles; *ergo*, God cannot give it such a power; you cannot conceive how matter should feel, or move itself, or affect an immaterial being, or be moved by

conceive the motion of matter can any way operate upon ? I say not this, that I would any way lessen the belief of the soul's immateriality : I am not here speaking of probability, but knowledge ;

it ; *ergo*, God cannot give it such powers, which is in effect to deny gravity and the revolution of the planets about the sun ; to make brutes mere machines without sense or spontaneous motion, and to allow man neither sense nor voluntary motion.

Let us apply this rule one degree farther. You cannot conceive how an extended solid substance should think, therefore God cannot make it think ; can you conceive how your own soul, or any substance, thinks ? You find indeed that you do think, and so do I ; but I want to be told how the action of thinking is performed : this, I confess, is beyond my conception ; and I would be glad any one, who conceives it, would explain it to me. God, I find, has given me this faculty ; and since I cannot but be convinced of his power in this instance, which, though I every moment experiment in myself, yet I cannot conceive the manner of ; what would it be less than an insolent absurdity, to deny his power in other like cases, only for this reason, because I cannot conceive the manner how ?

To explain this matter a little farther. God has created a substance ; let it be, for example, a solid extended substance. Is God bound to give it, besides being, a power of action ? That, I think, nobody will say : he therefore may leave it in a state of inactivity, and it will be nevertheless a substance ; for action is not necessary to the being of any substance that God does create : God has likewise created and made to exist, *de novo*, an immaterial substance, which will not lose its being of a substance, though God should bestow on it nothing more but this bare being, without giving it any activity at all. Here are now

and I think not only, that it becomes the modesty of philosophy not to pronounce magisterially, where we want that evidence that can produce knowledge; but also, that it is of use to us to

two distinct substances, the one material, the other immaterial, both in a state of perfect inactivity. Now I ask, what power God can give to one of these substances (supposing them to retain the same distinct natures that they had as substances in their state of inactivity) which he cannot give to the other? In that state, it is plain, neither of them thinks; for thinking being an action, it cannot be denied that God can put an end to any action of any created substance, without annihilating of the substance whereof it is an action; and if it be so, he can also create or give existence to such a substance, without giving that substance any action at all. By the same reason it is plain, that neither of them can move itself: now, I would ask, why Omnipotency cannot give to either of these substances, which are equally in a state of perfect inactivity, the same power that it can give to the other? Let it be, for example, that of spontaneous or self-motion, which is a power that it is supposed God can give to an unsolid substance, but denied that he can give to a solid substance.

If it be asked, why they limit the omnipotency of God, in reference to the one rather than the other of these substances? All that can be said to it is, that they cannot conceive how the solid substance should ever be able to move itself. And as little, say I, are they able to conceive how a created unsolid substance should move itself: but there may be something in an immaterial substance that you do not know. I grant it; and in a material one too: for example, gravitation of matter towards matter, and in the several proportions observable, inevitably shews, that there is something in matter that we do not understand, un-

discern how far our knowledge does reach ; for the state we are at present in, not being that of vision, we must, in many things, content ourselves with faith and probability : and in the present

less we can conceive self-motion in matter ; or an inexplicable and inconceivable attraction in matter, at immense and almost incomprehensible distance : it must therefore be confessed, that there is something in solid as well as unsolid substances, that we do not understand. But this we know, that they may each of them have their distinct beings, without any activity superadded to them, unless you will deny that God can take from any being its power of acting, which it is probable will be thought too presumptuous for any one to do ; and, I say, it is as hard to conceive self-motion in a created immaterial, as in a material being, consider it how you will : and therefore this is no reason to deny Omnipotency to be able to give a power of self-motion to a material substance, if he pleases, as well as to an immaterial ; since neither of them can have it from themselves, nor can we conceive how it can be in either of them.

The same is visible in the other operation of thinking ; both these substances may be made, and exist without thought ; neither of them has, or can have the power of thinking from itself : God may give it to either of them, according to the good pleasure of his omnipotency ; and in which-ever of them it is, it is equally beyond our capacity to conceive how either of those substances thinks. But for that reason, to deny that God, who had power enough to give them both a being out of nothing, can by the same omnipotency give them what other powers and perfections he pleases, has no better a foundation than to deny his power of creation, because we cannot conceive how it is performed ; and there at last this way of reasoning must terminate.

question, about the immateriality of the soul, if our faculties cannot arrive at demonstrative certainty, we need not think it strange. All the great ends of morality and religion are well e-

That Omnipotency cannot make a substance to be solid and not solid at the same time, I think, with due reverence, we may say; but that a solid substance may not have qualities, perfections, and powers, which have no natural or visibly necessary connection with solidity and extension, is too much for us (who are but of yesterday, and know nothing) to be positive in. If God cannot join things together by connections inconceivable to us, we must deny even the consistency and being of matter itself; since every particle of it having some bulk, has its parts connected by ways inconceivable to us. So that all the difficulties that are raised against the thinking of matter from our ignorance or narrow conceptions, stand not at all in the way of the power of God, if he pleases to ordain it so; nor proves any thing against his having actually endued some parcels of matter, so disposed as he thinks fit, with a faculty of thinking, till it can be shewn that it contains a contradiction to suppose it.

Though to me sensation be comprehended under thinking in general, yet in the foregoing discourse I have spoke of sense in brutes as distinct from thinking; because your lordship, as I remember, speaks of sense in brutes. But here I take liberty to observe, that if your lordship allows brutes to have sensation, it will follow, either that God can and doth give to some parcels of matter a power of perception and thinking; or that all animals have immaterial, and consequently, according to your lordship, immortal souls, as well as men; and to say that fleas and mites, &c. have immortal souls, as well as men, will possibly be looked on as going a great way to serve an hypothesis.

nough secured, without philosophical proofs of the soul's immateriality; since it is evident, that he who made us at first begin to subsist here, sensible intelligent beings, and for several years continued

I have been pretty large in making this matter plain, that they who are so forward to bestow hard censures or names on the opinions of those who differ from them, may consider whether sometimes they are not more due to their own: and that they may be persuaded a little to temper that heat, which supposing the truth, in their current opinions, gives them, as they think, a right to lay what imputations they please on those who would fairly examine the grounds they stand upon. For talking with a supposition and insinuations, that truth and knowledge, nay, and religion too, stands and falls with their systems, is at best but an imperious way of begging the question, and assuming to themselves, under the pretence of zeal for the cause of God, a title to infallibility. It is very becoming that mens zeal for truth should go as far as their proofs, but not go for proofs themselves. He that attacks received opinions with any thing but fair arguments, may, I own, be justly suspected not to mean well, nor to be led by the love of truth; but the same may be said of him too who so defends them. An error is not the better for being common, nor truth the worse for having lain neglected: and if it were put to the vote any-where in the world, I doubt, as things are managed, whether truth would have the majority, at least whilst the authority of men, and not the examination of things, must be its measure. The imputation of *scepticism*, and those broad insinuations to render what I have writ suspected, so frequent as if that were the great business of all this pains you have been at about men, has made me say thus much, my lord, rather as my sense of the way to establish truth in its full force and beauty, than that I think the

us in such a state, can and will restore us to the like state of sensibility in another world, and make us capable there to receive the retribution he has designed to men, according to their doings in this

world will need to have any thing said to it, to make it distinguish between your lordship's and my design in writing, which therefore I securely leave to the judgment of the reader, and return to the argument in hand.

What I have above said, I take to be a full answer to all that your lordship would infer from my idea of matter, of liberty, and from the power of abstracting. You ask *, *How can my idea of liberty agree with the idea that bodies can operate only by motion and impulse?* Answ. By the omnipotency of GOD, who can make all things agree, that involve not a contradiction. It is true, I say †, *That bodies operate by impulse, and nothing else.* And so I thought when I writ it, and yet can conceive no other way of their operation. But I am since convinced, by the judicious Mr. Newton's incomparable book, that it is too bold a presumption to limit GOD's power in this point by my narrow conceptions. The gravitation of matter towards matter, by ways inconceivable to me, is not only a demonstration that GOD can, if he pleases, put into bodies powers, and ways of operation, above what can be derived from our idea of body, or can be explained by what we know of matter, but also an unquestionable and every-where visible instance, that he has done so. And therefore, in the next edition of my book, I shall take care to have that passage rectified.

As to *self-consciousness*, your lordship asks ‡, *What*

* First answer, p. 73.

† Essay, book ii. chap. 8. § 11.

‡ First answer, p. 74.

life. And therefore it is not of such mighty necessity to determine one way or the other, as some, over-zealous for or against the immateriality of the soul, have been forward to make the world

is there like self-consciousness in matter? Nothing at all in matter as matter. But that God cannot bestow on some parcels of matter a power of thinking, and with it self-consciousness, will never be proved by asking †, *How it is possible to apprehend that mere body should perceive that it doth perceive?* The weakness of our apprehension I grant in the case: I confess as much as you please, that we cannot conceive how a solid, no, nor how an unsolid created *substance* thinks; but this weakness of our apprehensions reaches not the power of God, whose weakness is stronger than any thing in men.

Your argument from abstraction, we have in this question ‡, *If it may be in the power of matter to think, how comes it to be so impossible for such organized bodies as the brutes have, to enlarge their ideas by abstraction?* *Ans.* This seems to suppose, that I place thinking within the natural power of matter. If that be your meaning, my lord, I neither say, nor suppose, that all matter has naturally in it a faculty of thinking, but the direct contrary. But if you mean, that certain parcels of matter, ordered by the divine power, as seems fit to him, may be made capable of receiving from his omnipotency the faculty of thinking; that indeed I say, and that being granted, the answer to your question is easy, since if omnipotency can give thought to any solid substance, it is not hard to conceive, that God may give that faculty in an higher or lower degree, as it pleases him, who knows what disposition of the subject is suited to such a particular way or degree of thinking.

† First answer, p. 74.

‡ Ibid. p. 76.

believe. Who, either on the one side, indulging too much their thoughts immerfed altogether in matter, can allow no exiftence to what is not material: or who, on the other fide, finding not

Another argument to prove, that God cannot endue any parcel of matter with the faculty of thinking, is taken from thofe words of mine †, where I fhew by what connection of ideas we may come to know, that God is an immaterial fubftance. They are thefe: *The idea of an eternal actual knowing being, with the idea of immateriality, by the intervention of the idea of matter, and of its actual divifion, divifibility, and want of perception, &c.* From whence your lordship thus argues ‡, *Here the want of perception is owned to be fo effential to matter, that God is therefore concluded to be immaterial.* Anfw. Perception and knowledge in that one eternal Being, where it has its fource, it is vifible muft be effentially infeparable from it; therefore the actual want of perception in fo great part of the particular parcels of matter, is a demonftration that the firft Being, from whom perception and knowledge is infeparable, is not matter: how far this makes the *want of perception an effential property of matter*, I will not difpute; it fuffices that it fhews, that perception is not an effential property of matter; and therefore matter cannot be that eternal original being, to which perception and knowledge is effential. Matter, I fay, naturally is without perception: ergo, fays your lordship, *want of perception is an effential property of matter, and God does not change the effential properties of things, their nature remaining.* From whence you infer, that God cannot beftow on any parcel of matter (the nature of matter remaining) a faculty of

† Firft letter, p. 139.

‡ Second anfwer, p. 77.

cogitation within the natural powers of matter, examined over and over again, by the utmost intention of mind, have the confidence to conclude, that omnipotency itself cannot give perception

thinking. If the rules of logic, since my days, be not changed, I may safely deny this consequence. For an argument that runs thus, *God does not, ergo, he cannot*, I was taught, when I came first to the university, would not hold. For I never said *God did*. But † *that I see no contradiction in it, that he should, if he pleased, give to some systems of senseless matter a faculty of thinking*; and I know no-body, before Des Cartes, that ever pretended to shew that there was any contradiction in it. So that at worst, my not being able to see in matter any such incapacity, as makes it impossible for omnipotency to bestow on it a faculty of thinking, makes me opposite only to the Cartesians. For as far as I have seen or heard, the fathers of the Christian church never pretended to demonstrate that matter was incapable to receive a power of sensation, perception, and thinking from the hand of the omnipotent Creator. Let us therefore, if you please, suppose the form of your argumentation right, and that your lordship means, *God cannot*: and then if your argument be good, it proves, that God could not give to Balaam's ass a power to speak to his master as he did; for the want of rational discourse, being natural to that species, it is but for your lordship to call it *an essential property*, and then God cannot change the *essential properties of things, their nature remaining*; whereby it is proved, that God cannot, with all his omnipotency, give to an ass a power to speak as Balaam's did.

You say ‡, my lord, *you do not set bounds to God's omnipotency. For he may, if he please, change a bo-*

† Book iv. chap. 3. § 6.

‡ First answer, p. 78.

and thought to a substance which has the modification of solidity. He that considers how hardly sensation is, in our thoughts, reconcileable to extended matter, or existence to any thing that hath

dy into an immaterial substance, i. e. take away from a substance the solidity which it had before, and which made it matter, and then give it a faculty of thinking which it had not before, and which makes it a spirit, the same substance *remaining*. For if the same substance remains not, *body is not changed into an immaterial substance*. But the solid substance, and all belonging to it, is annihilated, and an immaterial substance created, which is not a change of one thing into another, but the destroying of one, and making another *de novo*. In this change therefore of a body, or material substance into an immaterial, let us observe those distinct considerations.

First, you say, *God may, if he pleases*, take away from a solid substance solidity; which is that which makes it a material substance, or *body*; and may make it *an immaterial substance*, i. e. *a substance without solidity*. But this privation of one quality gives it not another; the bare taking away a lower or less noble quality does not give it an higher or nobler; that must be the gift of God. For the bare privation of one, and a meaner quality, cannot be the position of an higher and better: unless any one will say, that cogitation, or the power of thinking, results from the nature of substance itself; which if it do, then where-ever there is substance, there must be cogitation, or a power of thinking. Here then, upon your lordship's own principles, is an *immaterial substance* without the faculty of thinking.

In the next place, you will not deny, but God may give to this substance, thus deprived of solidity, a faculty of thinking; for you suppose it made capable of that by being made immaterial, whereby you allow,

no extension at all, will confess, that he is very far from certainly knowing what his soul is. It is a point, which seems to me to be put out of the reach of our knowledge : and he who will give

that the same numerical substance may be sometimes wholly incogitative, or without a power of thinking, and at other times perfectly cogitative, or endued with a power of thinking.

Further, you will not deny, but GOD can give it solidity, and make it material again. For I conclude it will not be denied, that GOD can make it again what it was before. Now, I crave leave to ask your lordship, why GOD having given to this substance the faculty of thinking after solidity was taken from it, cannot restore to it solidity again, without taking away the faculty of thinking. When you have resolved this, my lord, you will have proved it impossible for GOD's omnipotency to give to a solid substance a faculty of thinking; but till then, not having proved it impossible, and yet denying that GOD can do it, is to deny that he can do what is in itself possible; which, as I humbly conceive, is visibly *to set bounds to God's omnipotency*, though you say here *, *you do not set bounds to God's omnipotency*.

If I should imitate your lordship's way of writing, I should not omit to bring in Epicurus here, and take notice that this was his way : *Deum verbis ponere, re tollere*. And then add, that *I am certain you do not think he promoted the great ends of religion and morality*. For it is with such candid and kind insinuations as these, that you bring in both Hobbes †, and Spinoza ‡, into your discourse here about GOD's being able, if he please, to give to some parcels of matter, ordered as he thinks fit, a faculty of thinking.

* First answer, p. 78.

† Ibid. p. 55.

‡ Ibid. 79.

himself leave to consider freely, and look into the dark and intricate part of each hypothesis, will scarce find his reason able to determine him fixedly for, or against the soul's materiality. Since

Neither of those authors having, as appears by any passages you bring out of them, said any thing to this question, nor having, as it seems, any other business here, but by their names skilfully to give that character to my book, with which you would recommend it to the world.

I pretend not to inquire what measure of zeal, nor for what, guides your lordship's pen in such a way of writing, as your's has all along been with me: only I cannot but consider, what reputation it would give to the writings of the fathers of the church, if they should think truth required, or religion allowed them to imitate such patterns. But God be thanked, there be those amongst them who do not admire such ways of managing the cause of truth or religion. They being sensible, that if every one, who believes, or can pretend he has truth on his side, is thereby authorised, without proof, to insinuate whatever may serve to prejudice mens minds against the other side, there will be great ravage made on charity and practice, without any gain to truth or knowledge. And that the liberties frequently taken by disputants to do so, may have been the cause that the world in all ages has received so much harm, and so little advantage from controversies in religion.

These are the arguments which your lordship has brought to confute one saying in my book, by other passages in it, which therefore being all but *argumenta ad hominem*, if they did prove what they do not, are of no other use, than to gain a victory over me, a thing methinks so much beneath your lordship, that it does not deserve one of your pages. The question is, whether God can, if he pleases, bestow on any

on which side soever he views it, either as an unextended substance, or as a thinking extended matter; the difficulty to conceive either, will; whilst either alone is in his thoughts, still drive

parcel of matter, ordered as he thinks fit, a faculty of perception and thinking. You say †, *You look upon a mistake herein to be of dangerous consequence, as to the great ends of religion and morality.* If this be so, my lord, I think one may well wonder, why your lordship has brought no arguments to establish the truth itself, which you look on to be of such dangerous consequence to be mistaken in; but have spent so many pages only in a *personal matter*, in endeavouring to shew that I had inconsistencies in my book, which, if any such thing had been shewed, the question would be still as far from being decided, and the danger of mistaking about it as little prevented, as if nothing of all this had been said. If therefore your lordship's care of the *great ends of religion and morality* have made you think it necessary to clear this question, the world has reason to conclude there is little to be said against that proposition, which is to be found in my book concerning the possibility that some parcels of matter might be so ordered by omnipotence, as to be endued with a faculty of thinking, if God so pleased, since your lordship's concern for the *promoting the great ends of religion and morality*, has not enabled you to produce one argument against a proposition, that you think of so dangerous consequence to them.

And here I crave leave to observe, that though in your title-page you promise to prove, that my *notion of ideas is inconsistent with itself*, (which, if it were, it could hardly be proved to be inconsistent with

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† First answer, p. 79.

him to the contrary side. An unfair way which some men take with themselves ; who because of the inconceivableness of something they find in one, throw themselves violently into the contrary

any thing else), *and with the articles of the Christian faith* ; yet your attempts all along have been to prove me in some passages of my book inconsistent with myself, without having shewn any proposition in my book inconsistent with any *article of the Christian faith*.

I think your lordship has indeed made use of one argument of your own : but it is such an one, that I confess I do not see how it is apt much to promote religion, especially the Christian religion founded on revelation. I shall set down your lordship's words, that they may be considered : You say †, *That you are of opinion, that the great ends of religion and morality are best secured by the proofs of the immortality of the soul from its nature and properties, and which you think proves it immaterial. Your lordship does not question whether God can give immortality to a material substance ; but you say, it takes off very much from the evidence of immortality, if it depend wholly upon God's giving that, which of its own nature it is not capable of, &c. So likewise you say ‡, If a man cannot be certain, but that matter may think, as I affirm, then what becomes of the soul's immateriality, and consequently immortality, from its operations ? But for all this, say I, his assurance of faith remains on its own basis. Now, you appeal to any man of sense, whether the finding the uncertainty of his own principles, which we went upon in point of reason, doth not weaken the credibility of these fundamental articles, when they are considered purely as matters of faith ? For before there was a natural credibility in them on the account of reason ; but by going on wrong*

† First answer, p. 54. 55.

‡ Second answer, p. 58.

hypothesis, though altogether as unintelligible to an unbiassed understanding. This serves not only to shew the weakness and scantiness of our knowledge, but the insignificant triumph of such

grounds of certainty, all that is lost, and instead of being certain, he is more doubtful than ever. And if the evidence of faith falls so much short of that of reason, it must needs have less effect upon mens minds, when the subserviency of reason is taken away; as it must be when the grounds of certainty by reason are vanished. Is it at all probable, that he who finds his reason deceive him in such fundamental points, should have his faith stand firm and unmoveable on the account of revelation? For in matters of revelation, there must be some antecedent principle supposed before we can believe any thing of it.

More to the same purpose we have some passages farther, where, from some of my words, your lordship says *, *You cannot but observe, that we have no certainty upon my grounds that self-consciousness depends upon an individual immaterial substance, and consequently that a material substance may, according to my principles, have self-consciousness in it; at least that I am not certain of the contrary. Whereupon your lordship bids me consider, whether this doth not a little affect the whole article of the resurrection? What does all this tend to, but to make the world believe, that I have lessened the credibility of the immortality of the soul, and the resurrection, by saying, that though it be most highly probable, that the soul is immaterial, yet upon my principles it cannot be demonstrated; because it is not impossible to God's omnipotency, if he pleases to bestow upon some parcels of matter, disposed as he sees fit, a faculty of thinking?*

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* Second answer, p. 35.

fort of arguments, which, drawn from our own views, may satisfy us that we can find no certainty on one side of the question; but do not at all thereby help us to truth, by running into the op-

This your accusation of my *lessening the credibility* of these articles of faith, is founded on this, that the article of the immortality of the soul abates of its credibility, if it be allowed that its immateriality (which is the supposed proof from reason and philosophy of its immortality) cannot be demonstrated from natural reason: which argument of your lordship's bottoms, as I humbly conceive, on this, that divine revelation abates of its *credibility* in all those articles it proposes, proportionably as human reason fails to support the testimony of God. And all that your lordship in those passages has said, when examined, will, I suppose, be found to import thus much, *viz.* does God promise any thing to mankind to be believed? It is very fit and credible to be believed, if reason can demonstrate it to be true. But if human reason comes short in the case, and cannot make it out, its *credibility* is thereby *lessened*; which is in effect to say, that the veracity of God is not a firm and sure foundation of faith to rely upon, without the concurrent testimony of reason, *i. e.* with reverence be it spoken, God is not to be believed on his own word, unless what he reveals be in itself credible, and might be believed without him.

If this be a way to promote religion, the Christian religion in all its articles, I am not sorry that it is not a way to be found in any of my writings; for I imagine any thing like this would, (and I should think deserved) to have other titles than bare *scepticism* bestowed upon it, and would have raised no small outcry against any one, who is not to be supposed to be in the right in all that he says, and so may securely say what he pleases. Such as I, the *profanum vulgus*, who

posite opinion, which, on examination, will be found clogged with equal difficulties. For what safety, what advantage to any one is it, for the avoiding the seeming absurdities, and, to him,

take too much upon us, if we would examine, have nothing to do but to hearken and believe, though what he said should subvert the very foundations of the Christian faith.

What I have above observed, is so visibly contained in your lordship's argument, that when I met with it in your answer to my first letter, it seemed so strange from a man of your lordship's character, and in a dispute in defence of the doctrine of the Trinity, that I could hardly persuade myself, but it was a slip of your pen: but when I found it in your second letter * made use of again, and seriously enlarged as an argument of weight to be insisted upon, I was convinced, that it was a principle that you heartily embraced, how little favourable soever it was to the articles of the Christian religion, and particularly those which you undertook to defend.

I desire my reader to peruse the passages as they stand in your letters themselves, and see whether what you say in them does not amount to this, that a revelation from God is more or less credible according as it has a stronger or weaker confirmation from human reason. For,

1. Your lordship says †, *You do not question whether God can give immortality to a material substance; but you say it takes off very much from the evidence of immortality, if it depends wholly upon God's giving that which of its own nature it is not capable of.*

To which I reply; any one's not being able to demonstrate the soul to be immaterial, *takes off not very*

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* Second answer, p. 28, 29.

† First answer, p. 55.

unfurmountable rubs he meets with in one opinion, to take refuge in the contrary, which is built on something altogether as inexplicable, and as far remote from his comprehension? It is past

much, nor at all from the *evidence of its immortality*, if God has revealed that it shall be immortal; because the veracity of God is a demonstration of the truth of what he has revealed, and the want of another demonstration of a proposition that is demonstratively true, takes not off from the evidence of it. For where there is a clear demonstration, there is as much evidence as any truth can have, that is not self-evident. God has revealed, that the souls of men shall live for ever. But, says your lordship, from this *evidence it takes off very much if it depends wholly upon God's giving that which, of its own nature, it is not capable of*; i. e. the revelation and testimony of God loses much of its evidence, if this depends wholly upon the good pleasure of God, and cannot be demonstratively made out by natural reason, that the soul is immaterial, and consequently in its own nature immortal. For that is all that here is or can be meant by these words, *which, of its own nature, it is not capable of*, to make them to the purpose. For the whole of your lordship's discourse here, is to prove, that the soul cannot be material, because then the evidence of its being immortal would be *very much lessened*. Which is to say, that it is not as credible, upon divine revelation, that a material substance should be immortal, as an immaterial; or, which is all one, that God is not equally to be believed, when he declares, that a material substance shall be immortal, as when he declares, that an immaterial shall be so, because the immortality of a material substance cannot be demonstrated from natural reason.

Let us try this rule of your lordship's a little far-

controverſy, that we have in us ſomething that thinks; our very doubts about what it is confirm the certainty of its being, though we muſt content ourſelves in the ignorance of what kind

ther. God had revealed, that the bodies men ſhall have after the reſurrection, as well as their ſouls, ſhall live to eternity. Does your lordſhip believe the eternal life of the one of theſe, more than of the other, becauſe you think you can prove it of one of them by natural reaſon, and of the other not? Or can any one, who admits of divine revelation in the caſe, doubt of one of them more than the other? Or think this propoſition leſs credible, *the bodies of men, after the reſurrection, ſhall live for ever*; than this, that *the ſouls of men ſhall, after the reſurrection, live for ever*? For that he muſt do, if he thinks either of them is leſs credible than the other. If this be ſo, reaſon is to be conſulted, how far God is to be believed, and the credit of divine teſtimony muſt receive its force from the evidence of reaſon; which is evidently to take away the credibility of divine revelation, in all ſupernatural truths, wherein the evidence of reaſon fails. And how much ſuch a principle as this tends to the ſupport of the doctrine of the Trinity, or the promoting the Chriſtian religion, I ſhall leave it to your lordſhip to conſider.

I am not ſo well read in Hobbes or Spinoſa, as to be able to ſay, what were their opinions in this matter. But poſſibly there be thoſe who will think your lordſhip's authority of more uſe to them in the caſe, than thoſe juſtly decried names; and be glad to find your lordſhip a pattern of the *oracles of reaſon*, ſo little to the advantage of the *oracles of divine revelation*. This at leaſt, I think, may be ſubjoined to the words at the bottom of the next page *, that *theſe*

* Firſt answer, p. 65.

of being it is : and it is as vain to go about to be sceptical in this, as it is unreasonable in most other cases to be positive against the being of any thing, because we cannot comprehend its nature.

who have gone about to lessen the credibility of articles of faith, which evidently they do, who say they are less credible, because they cannot be made out demonstratively by natural reason, have not been thought to secure several of the articles of the Christian faith, especially those of the Trinity, incarnation, and resurrection of the body, which are those upon the account of which I am brought by your lordship into this dispute.

I shall not trouble the reader with your lordship's endeavours in the following words, to prove, that if the soul be not an immaterial substance, it can be *nothing but life*; your very first words visibly confuting all that you alledge to that purpose. They are *, *If the soul be a material substance, it is really nothing but life*; which is to say, that if the soul be really a substance, it is not really a substance, but really *nothing* else but an affection of a substance; for the life, whether of a material or immaterial substance, is not the substance itself, but an affection of it.

2. You say †, *Although we think the separate state of the soul after death is sufficiently revealed in the scripture, yet it creates a great difficulty in understanding it, if the soul be nothing but life, or a material substance, which must be dissolved when life is ended. For if the soul be a material substance, it must be made up, as others are, of the cohesion of solid and separate parts, how minute and invisible soever they be. And what is it which should keep them together, when life is gone? So that it is no easy matter to give an account, how the soul should be capable of immortality, unless it*

* First answer, p. 55.

† Ibid. p. 57.

For I would fain know what substance exists that has not something in it which manifestly baffles our understandings. Other spirits, who see and know the nature and inward constitution of things,

be an immaterial substance ; and then we know the solution and texture of bodies cannot reach the soul, being of a different nature.

Let it be as hard a matter as it will to give an account what it is that should keep the parts of a material soul together, after it is separated from the body ; yet it will be always as easy to give an account of it, as to account what it is which shall keep together a material and immaterial substance. And yet the difficulty that there is to give an account of that, I hope does not, with your lordship, weaken the credibility of the inseparable union of soul and body to eternity : and I persuade myself, that the men of sense, to whom your lordship appeals in the case, do not find their belief of this fundamental point much weakened by that difficulty. I thought heretofore (and, by your lordship's permission, would think so still) that the union of parts of matter, one with another, is as much in the hands of God, as the union of a material and immaterial substance ; and that it does not take off very much, or at all, from the evidence of immortality, which depends on that union, that it is no easy matter to give an account what it is that should keep them together : though its depending wholly upon the gift and good pleasure of God, (where the matter creates great difficulty in the understanding, and our reason cannot discover, in the nature of things, how it is), be that which your lordship so positively says lessens the credibility of the fundamental articles of the resurrection and immortality.

But, my lord, to remove this objection a little, and to shew of how small force it is even with yourself ; give me leave to presume, that your lordship as firm-

how much must they exceed us in knowledge? To which if we add larger comprehensions, which enables them at one glance to see the connection and agreement of very many ideas, and readi-

ly believes the immortality of the body after the resurrection, as any other article of faith: if so, then it being *no easy matter to give an account, what it is that shall keep together* the parts of a material soul, to one that believes it is material, can no more *weaken the credibility* of its immortality, than the like difficulty *weakens the credibility* of the immortality of the body. For when your lordship shall find it an *easy matter to give an account what it is*, besides the good pleasure of God, *which shall keep together* the parts of our material bodies to eternity, or even soul and body; I doubt not but any one, who shall think the soul material, will also find it as *easy to give an account, what it is that shall keep* those parts of matter also together to eternity.

Were it not that the warmth of controversy is apt to makemen so far forget, as to take up those principles themselves (when they will serve their turn) which they have highly condemned in others, I should wonder to find your lordship to argue, that because it is a difficulty to *understand what should keep together the minute parts of a material soul, when life is gone; and because it is not an easy matter to give an account how the soul should be capable of immortality, unless it be an immaterial substance*: therefore it is not so credible as if it were *easy to give an account* by natural reason, how it *could be*. For to this it is that all this your discourse tends, as is evident by what is already set down out of page 55th; and will be more fully made out by what your lordship says in other places, though there needs no such proofs, since it would all be nothing against me in any other sense.

ly supplies to them the intermediate proofs, which we, by single and slow steps, and long poring in the dark, hardly at last find out, and are often ready to forget one before we have hunted out

I thought your lordship had in other places asserted, and insisted on this truth, that no part of divine revelation was the less to be believed, because the thing itself *created great difficulty in the understanding*, and the manner of it was hard to be explained; *and it was no easy matter to give an account* how it was. This, as I take it, your lordship condemned in others, as a very unreasonable principle, and such as would subvert all the articles of the Christian religion, that were mere matters of faith, as I think it will: and is it possible, that you should make use of it here yourself, against the article of *life and immortality*, that Christ hath brought to light through the gospel, and neither was, nor could be made out by natural reason without revelation? But you will say, you speak only of the soul; and your words are, that *it is no easy matter to give an account how the soul should be capable of immortality, unless it be an immaterial substance*. I grant it; but crave leave to say, that there is not any one of those difficulties that are, or can be raised about the manner *how* a material soul can be immortal, which do not as well reach the immortality of the body.

But if it were not so, I am sure this principle of your lordship's would reach other articles of faith, wherein our natural reason finds it not so easy to give an account *how* those mysteries are: and which therefore, according to your principles, must be less *credible* than other articles, that *create less difficulty to the understanding*. For your lordship says*, that *you appeal to any man of sense, whether to a man who thought by his principles, he could, from natural*

* Second answer, p. 28.

another; we may guess at some part of the happiness of superior ranks of spirits, who have a quicker and more penetrating sight, as well as a larger field of knowledge. But to return to the ar-

grounds, demonstrate the immortality of the soul, the *finding the uncertainty of those principles he went upon in point of reason*, i. e. the finding he could not certainly prove it by natural reason, *doth not weaken the credibility of that fundamental article, when it is considered purely as a matter of faith?* Which in effect, I humbly conceive, amounts to this, that a proposition divinely revealed, that cannot be proved by natural reason, is less credible than one that can: which seems to me to come very little short of this, with due reverence be it spoken, that God is less to be believed when he affirms a proposition that cannot be proved by natural reason, than when he proposes what can be proved by it. The direct contrary to which is my opinion, though you endeavour to make it good by these following words *: *If the evidence of faith falls so much short of that of reason, it must needs have less effect upon mens minds, when the subserviency of reason is taken away; as it must be when the grounds of certainty by reason are vanished. Is it at all probable, that he who finds his reason deceive him in such fundamental points, should have his faith stand firm and unmoved on the account of revelation?* Than which, I think, there are hardly plainer words to be found out to declare, that the credibility of God's testimony depends on the natural evidence or probability of the things we receive from revelation; and rises and falls with it: and that the truths of God, or the articles of mere faith, lose so much of their *credibility*, as they want proof from reason: which, if true, revelation may come to have no cre-

* Second answer, p. 29.

gument in hand: our knowledge, I say, is not only limited to the paucity and imperfections of the ideas we have, and which we employ it about, but even comes short of that too: but how far it reaches let us now inquire.

dibility at all. For if in this present case, the credibility of this proposition, *the souls of men shall live for ever*, revealed in scripture, be lessened by confessing it cannot be demonstratively proved from reason, though it be asserted to be most highly probable; must not by the same rule its credibility dwindle away to nothing, if natural reason should not be able to make it out to be so much as probable; or should place the probability from natural principles on the other side? For if mere want of demonstration *lessens the credibility* of any proposition divinely revealed, must not want of probability, or contrary probability from natural reason, quite take away its credibility? Here at last it must end, if in any one case the veracity of GOD, and the credibility of the truths we receive from him by revelation, be subjected to the verdicts of human reason, and be allowed to receive any accession or diminution from other proofs, or want of other proofs of its certainty or probability.

If this be your lordship's way to promote religion, or defend its articles, I know not what argument the greatest enemies of it could use more effectual for the subversion of those you have undertaken to defend, this being to resolve all revelation perfectly and purely into natural reason, to bound its credibility by that, and leave no room for faith in other things, than what can be accounted for by natural reason without revelation.

Your lordship insists * much upon it, as if I had contradicted what I had said in my Essay †, by saying, that upon my principles it cannot be demonstra-

* First answer, p. 48,—54.

† Book ii. chap. 23.

§ 7. The affirmations or negations we make concerning the ideas we have, may, as I have before intimated in general, be reduced to these four sorts, *viz.* identity, co-existence, relation,

tively proved, that it is an immaterial substance in us that thinks, however probable it be. He that will be at the pains to read that chapter of mine, and consider it, will find, that my business there was to shew, that it was no harder to conceive an immaterial than a material substance; and that from the ideas of thought, and a power of moving of matter, which we experienced in ourselves, (ideas originally not belonging to matter as matter) there was no more difficulty to conclude there was an immaterial substance in us, than that we had material parts. These ideas of thinking, and power of moving of matter, I, in another place, shewed did demonstratively lead us to the certain knowledge of the existence of an immaterial thinking being, in whom we have the idea of spirit in the strictest sense; in which sense I also applied it to the soul, in that twenty-third chapter of my Essay, the easily conceivable possibility, nay great probability, that the thinking substance in us is immaterial, giving me sufficient ground for it: in which sense I shall think I may safely attribute it to the thinking substance in us, till your lordship shall have better proved from my words, that it is impossible it should be immaterial. For I only say, that it is possible, *i. e.* involves no contradiction, that God the omnipotent immaterial Spirit should, if he pleases, give to some parcels of matter, disposed as he thinks fit, a power of thinking and moving; which parcels of matter, so endued with a power of thinking and motion, might properly be called spirits, in contradistinction to unthinking matter. In all which, I presume, there is no manner of contradiction.

I justified my use of the word *spirit*, in that sense, from the authorities of Cicero and Virgil, applying the

and real existence. I shall examine how far our knowledge extends in each of these.

§ 8. *First*, As to *identity and diversity*, in this way of the agreement or disagreement of our i-

Latin word *spiritus*, from whence *spirit* is derived, to the soul as a thinking thing, without excluding materiality out of it, To which your lordship replies*, *That Cicero, in his Tusculan Questions, supposes the soul not to be a finer sort of body, but of a different nature from the body.—That he calls the body the prison of the soul.—And says, That a wise man's business is to draw off his soul from his body. And then your lordship concludes, as is usual, with a question, Is it possible now to think so great a man looked on the soul but as a modification of the body, which must be at an end with life? Answer.* No; it is impossible that a man of so good sense as Tully, when he uses the word *corpus*, or *body*, for the gross and visible parts of a man, which he acknowledges to be mortal, should look on the soul to be a modification of that body, in a discourse wherein he was endeavouring to persuade another, that it was immortal. It is to be acknowledged that truly *great men*, such as he was, are not wont so manifestly to contradict themselves. He had therefore no thought concerning the *modification of the body* of man in the case; he was not such a trifler as to examine, whether the modification of the body of a man was immortal, when that body itself was mortal: and therefore that which he reports as Dicæarchus's opinion, he dismisses in the beginning without any more ado †. But Cicero's was a direct, plain, and sensible inquiry, *viz.* what the soul was, to see whether from thence he could discover its immortality? But in all that discourse in his first book of Tusculan Questions, where he lays out so much of

H 2

* First answer, p. 58,—60.

† Cap. 11.

deas, our intuitive knowledge is as far extended as our ideas themselves: and there can be no idea in the mind, which it does not presently, by an intuitive knowledge, perceive to be what it is, and to be different from any other.

his reading and reason, there is not one syllable shewing the least thought that the soul was an immaterial substance; but many things directly to the contrary. Indeed,

1. He shuts out the *body*, taken in the sense he uses *corpus* * all along, for the sensible organical parts of a man; and is positive that it is not the soul: and *body* in this sense, taken for the human body, he calls *the prison of the soul*; and says a wise man, instancing in Socrates and Cato, is glad of a fair opportunity to get out of it. But he no-where says any such thing of matter: he calls no matter in general the prison of the soul. nor talks a word of being separate from it.

2. He concludes, that the soul is not like other things here below, made up of a composition of the elements †.

3. He excludes the two gross elements, earth and water, from being the soul ‡.

So far he is clear and positive: but beyond this he is uncertain; beyond this he could not get. For in some places he speaks doubtfully, whether the soul be not air, or fire. *Anima sit animus ignisve nescio* §. And therefore he agrees with Panætius, that, if it be all elementary, it is, as he calls it, *inflammata anima*, *inflamed air*; and for this he gives several reasons §. And though he thinks it to be of a *peculiar nature of its own*, yet he is so far from thinking it immaterial, that he says ††, that the admitting it to be of an *aerial*

* Tusc. Quæst. cap. 19, 22, 39, 31, &c.

† Cap. 27.

‡ Cap. 26.

¶ Cap. 25.

§ Cap. 18, 19.

†† Ibid.

§ 9. Secondly, As to the second sort, which is the agreement or disagreement of our ideas in co-existence; in this our knowledge is very short, though in this consists the greatest and most ma-

or igneous nature, would not be inconsistent with any thing he had said.

That which he seems most to incline to, is, that the soul was not at all elementary, but was of the same substance with the heavens; which Aristotle, to distinguish it from the four elements, and the changeable bodies here below, which he supposed made up of them, called *quinta essentia*. That this was Tully's opinion is plain from these words, *Ergo, animus qui, ut ego dico, divinus est, ut Euripides audet dicere Deus; et quidem si Deus, aut anima aut ignis est, idem est animus hominis. Nam ut illa natura cælestis et terra vacat et humore; sic utriusque harum rerum humanus animus est expers. Sin autem est quinta quædam natura ab Aristotele inducta; primum hæc et deorum est et animorum. Hanc nos sententiam secuti, his ipsis verbis in Consolatione hæc expressimus**. And then he goes on ‡ to repeat those his own words, which your lordship has quoted out of him, wherein he had affirmed, in his treatise de Consolatione, the soul not to have its original from the earth, or to be mixed or made of any thing earthly; but had said, *Singularis est igitur quædam natura et vis animi sejuncta ab his usitatis notisque naturis*: whereby, he tells us, he meant nothing but Aristotle's *quinta essentia*; which being unmixed, being that of which the gods and souls consisted, he calls it *divinum cæleste*, and concludes it eternal, it being, as he speaks, *sejuncta ab omni mortali concretione*. From which it is clear, that in all his inquiry about the substance

H 3

* Cic. Tusc. cap. 26.

‡ Ibid. cap. 27.

terial part of our knowledge concerning substances. For our ideas of the species of substances, being, as I have shewed, nothing but certain collections of simple ideas united in one subject, and so co-

of the soul, his thoughts went not beyond the four elements, or Aristotle's *quinta essentia*, to look for it. In all which there is nothing of immateriality, but quite the contrary.

He was willing to believe, as good and wise men have always been, that the soul was immortal; but for that, it is plain he never thought of its immateriality, but as the eastern people do, who believe the soul to be immortal, but have nevertheless no thought, no conception of its immateriality. It is remarkable what a very considerable and judicious author says ‡ in the case. *No opinion, says he, has been so universally received as that of the immortality of the soul; but its immateriality is a truth the knowledge whereof has not spread so far. And indeed it is extremely difficult to let into the mind of a Siamite, the idea of a pure spirit. This the missionaries, who have been longest among them, are positive in. All the Pagans of the east do truly believe, that there remains something of a man after his death, which subsists independently and separately from his body. But they give extension and figure to that which remains, and attribute to it all the same members, all the same substances, both solid and liquid, which your bodies are composed of. They only suppose that the souls are of a matter subtile enough to escape being seen or handled.—Such were the Shades and the Manes of the Greeks and the Romans. And it is by these figures of the souls, answerable to those of the bodies, that Virgil supposed Æneas knew Palinurus, Dido, and Anchises, in the other world.*

‡ Loubere du Royaume de Siam, tom. i. c. 19. § 4.

existing together: *v. g.* our idea of *flame* is a body hot, luminous, and moving upwards; of *gold*, a body heavy to a certain degree, yellow, malleable, and fusible: these, or some such complex ideas as

This gentleman was not a man that travelled into those parts for his pleasure, and to have the opportunity to tell strange stories, collected by chance, when he returned: but one chosen for the purpose (and he seems well chosen for the purpose) to inquire into the singularities of Siam. And he has so well acquitted himself of the commission, which his epistle dedicatory tells us he had, to inform himself exactly of what was most remarkable there, that had we but an account of other countries of the east, as he has given us of this kingdom, which he was an envoy to, we should be much better acquainted than we are with the manners, notions, and religions of that part of the world, inhabited by civilized nations, who want neither good sense nor acuteness of reason, though not cast into the mould of the logic and philosophy of our schools.

But to return to Cicero: it is plain, that in his inquiries about the soul, his thoughts went not at all beyond matter. This the expressions that dropt from him in several places of this book, evidently shew. For example, that the souls of excellent men and women ascended into heaven; of others, that they remained here on earth †: that the soul is hot, and warms the body: that at its leaving the body, it penetrates and divides, and breaks through our thick, cloudy, moist air: that it stops in the region of fire, and ascends no farther, the equality of warmth and weight making that its proper place, where it is nourished and sustained with the same things wherewith the stars are nourished and sustained, and that by the convenience of

† Tusc. Quæst. cap. 12.

these in mens minds, do these two names of the different substances, *flame* and *gold*, stand for. When we would know any thing farther concerning these, or any other sort of substances, what do we in-

its neighbourhood it shall there have a clearer view, and fuller knowledge of the heavenly bodies* : that the soul also from this height shall have a pleasant and fairer prospect of the globe of the earth, the disposition of whose parts will then lie before it in one view † : that it is hard to determine what conformation, size, and place, the soul has in the body : that it is too subtle to be seen : that it is in the human body as in a house, or a vessel, or a receptacle ‡. All which are expressions that sufficiently evidence, that he who used them had not in his mind separated materiality from the idea of the soul.

It may perhaps be replied, that a great part of this which we find in chapter nineteenth, is said upon the principles of those who would have the soul to be *anima inflammata*, *inflamed air*. I grant it. But it is also to be observed, that in this nineteenth, and the two following chapters, he does not only not deny, but even admits, that so material a thing as inflamed air may think.

The truth of the case, in short, is this: Cicero was willing to believe the soul immortal; but when he sought in the nature of the soul itself something to establish this his belief into a certainty of it, he found himself at a loss. He confessed he knew not what the soul was; but the not knowing what it was, he argues, was no reason to conclude it was not. And thereupon he proceeds to the repetition of what he had said in his sixth book, *de Republica*, concerning the soul. The argument, which, borrowed from

* Cic. Tusc. cap. 19.

† Ibid. cap. 22.

† Ibid. cap. 27.

‡ Ibid. cap. 2.

quire but what other qualities, or powers, these substances have, or have not? Which is nothing else but to know, what other simple ideas do, or do not co-exist with those that make up that complex idea?

Plato, he there makes use of, if it have any force in it, not only proves the soul to be immortal, but more than, I think, your lordship will allow to be true: for it proves it to be eternal, and without beginning, as well as without end, *neque nata certa est, et aeterna est*, says he.

Indeed from the faculties of the soul he concludes right, that it is of *divine original*: but as to the substance of the soul, he at the end of this discourse concerning its faculties *, as well as at the beginning of it †, is not ashamed to own his ignorance what it is; *Anima sit animus, ignisve, nescio; nec me pudet ut istos, fateri nescire quod nesciam. Illud, si ulla alia de re obscura affirmare possum, sive anima, sive ignis sit animus, eum jurarem esse divinum ‡*. So that all the certainty he could attain to about the soul, was, that he was confident there was something divine in it, *i. e.* there were faculties in the soul that could not result from the nature of matter, but must have their original from a divine power; but yet those qualities, as divine as they were, he acknowledged might be placed in breath or fire, which your lordship will not deny to be material substances. So that all those divine qualities, which he so much and so justly extols in the soul, led him not, as appears, so much as to any the least thought of immateriality. This is demonstration, that he built them not upon an exclusion of materiality out of the soul; for he avowedly professes he does not know, but breath, or fire, might be

* Cic. Tusc. cap. 25.

† Ibid. cap. 22.

‡ Ibid. cap. 25.

§ 10. This, how weighty and considerable a part soever of human science, is yet very narrow, and scarce any at all. The reason whereof is, that the simple ideas, whereof our complex ideas

this thinking thing in us: and in all his considerations about the substance of the soul itself, he stuck in *air* or *fire*, or Aristotle's *quinta essentia*; for beyond those, it is evident, he went not.

But with all his proofs out of Plato, to whose authority he defers so much, with all the arguments his vast reading and great parts could furnish him with for the immortality of the soul, he was so little satisfied, so far from being certain, so far from any thought that he had, or could prove it, that he over and over again professes his ignorance and doubt of it. In the beginning he enumerates the several opinions of the philosophers, which he had well studied, about it: and then full of uncertainty, says, *Harum sententiarum quæ vera sit, Deus aliquis viderit, quæ veri simillima magna quæstio* *. And towards the latter end, having gone them all over again, and one after another examined them, he professes himself still at a loss, not knowing on which to pitch, nor what to determine. *Mentis acies*, says he, *seipsam intuens nunquam hebescit*, ob eamque causam *contemplandi diligentiam omittimus*. Itaque *dubitans, circumspectans, hæsitans multa adversa revertens tanquam in rate in mari immenso, nostra vehitur oratio* †. And to conclude this argument, when the person he introduces as discoursing with him, tells him he is resolved to keep firm to the belief of the immortality, Tully answers ‡, *Laudo id quidem, et si nihil animis oportet confidere: movemur enim sæpe aliquo acute concluso, labamur, mutamusque sententiam clarioribus etiam in rebus; in his est enim aliquam obscuritas*.

* Cic. Tusc. cap. 11.

† Ibid. cap. 30.

‡ Ibid. cap. 82.

of substances are made up, are, for the most part, such as carry with them, in their own nature, no visible necessary connection, or inconsistency with any other simple ideas, whose co-existence with them we would inform ourselves about.

So unmoveable is that truth delivered by the Spirit of truth, that though the light of nature gave some obscure glimmering, some uncertain hopes of a future state ; yet human reason could attain to no clearness, no certainty about it, but that it was JESUS CHRIST alone who had *brought life and immortality to light, through the gospel* †. Though we are now told, that to own the inability of natural reason to bring *immortality to light*, or, which passes for the same, to own principles upon which the immateriality of the soul (and, as it is urged, consequently its immortality) cannot be demonstratively proved, *does lessen the belief of this article of revelation*, which JESUS CHRIST alone *has brought to light*, and which consequently the scripture assures us is established and made certain only by revelation. This would not perhaps have seemed strange, from those who are justly complained of for slighting the revelation of the gospel, and therefore would not be much regarded, if they should contradict so plain a text of scripture, in favour of their all-sufficient reason : but what use the *promoters of scepticism and infidelity, in an age so much suspected by your lordship*, may make of what comes from one of your great authority and learning, may deserve your consideration.

And thus, my lord, I hope, I have satisfied you concerning Cicero's opinion about the soul, in his first book of Tusculan Questions ; which, though I easily believe, as your lordship says, *you are no stranger to*, yet, I humbly conceive, you have not shewn (and up-

† 2 Tim. i. 10.

§ 11. The ideas, that our complex ones of substances are made up of, and about which our knowledge concerning substances is most employed, are those of their *secondary qualities*; which

on a careful perusal of that treatise again, I think I may boldly say you cannot shew) one word in it, that expresses any thing like a notion in Tully of the soul's immateriality, or its being an immaterial substance.

From what you bring out of Virgil your lordship concludes *, *That he no more than Cicero does me any kindness in this matter, being both asserters of the soul's immortality.* My lord, were not the question of the soul's immateriality, according to custom, changed here into that of its *immortality*, which I am no less an assenter of than either of them, Cicero and Virgil do me all the *kindness I desired of them in this matter*; and that was to shew, that they attributed the word *spiritus* to the *soul* of man, without any thought of its immateriality; and this the verses you yourself bring out of Virgil †,

Et cum frigida mors anima seduxerit artus,

Omnibus, umbra locis adero, dabis improbe pœnas,

confirm, as well as those I quoted out of his sixth book; and for this Monsieur de la Loubere shall be my witness in the words above set down out of him; where he shews, that there be those amongst the heathens of our days, as well as Virgil and others amongst the antient Greeks and Romans, who thought the souls, or ghosts of men departed, did not die with the body, without thinking them to be perfectly immaterial; the latter being much more incomprehensible to them than the former.

Your lordship's answer ‡ concerning what is said Ecclef. xiii. turns wholly upon Solomon's taking the

* First answer, p. 62, 63.

† Æneid. iv. 385.

‡ First answer, p. 64, 65.

depending all, as has been shewn, upon the primary qualities of their minute and insensible parts; or if not upon them, upon something yet more remote from our comprehension, it is impossible

soul to be immortal, which was not what I questioned: all that I quoted that place for, was to shew, that *spirit* in English might properly be applied to the soul, without any notion of its immateriality, as *רוח* was by Solomon, which whether he thought the souls of men to be immaterial, does little appear in that passage, where he speaks of the souls of men and beasts together, as he does. But farther, what I contended for, is evident from that place, in that the word *spirit* is there applied, by our translators, to the souls of beasts, which your lordship, I think, does not rank amongst the immaterial, and consequently immortal *spirits*, though they have sense and spontaneous motion.

But you say *, *If the soul be not of itself a free thinking substance, you do not see what foundation there is in nature for a day of judgment.* Ans. Though the heathen world did not of old, nor do to this day, see a foundation in nature for a day of judgment; yet in revelation, if that will satisfy your lordship, every one may see a foundation for a day of judgment; because God has positively declared it; though God has nor, by that revelation, taught us, what the substance of the soul is; nor has any-where said, that *the soul of itself is a free agent*. Whatsoever any created substance is, it is not *of itself*, but is by the good pleasure of its Creator; whatever degrees of perfection it has, it has from the bountiful hand of its Maker. For it is true in a natural, as well as a spiritual sense, what St Paul says †, *Not that we are sufficient of our-*

* First answer, p. 65.

† 2 Cor. iii. 5.

we should know, which have a necessary union or inconsistency one with another : for not knowing the root they spring from, not knowing what size, figure, and texture of parts they are, on

selves to think any thing as of ourselves, but our sufficiency is of God.

But your lordship, as I guess, by your following words, would argue, that a material substance cannot be a free agent ; whereby, I suppose, you only mean, that you cannot see or conceive how a solid substance should begin, stop, or change its own motion. To which give me leave to answer, that when you can make it conceivable, how any created, finite, dependent substance can move itself, or alter or stop its own motion, which it must, to be a *free agent* ; I suppose you will find it no harder for God to bestow this power on a solid, than an unsolid created substance. Tully, in the place above quoted*, could not conceive this power to be in any thing, but what was from eternity ; *Cum pateat igitur æternum id esse quod seipsum moveat, quis est qui hanc naturam animis esse tributam neget ?* But though you cannot see how any created substance, solid or not solid, can be a *free agent*, (pardon me, my lord, if I put in both, till your lordship please to explain it of either, and shew the manner how either of them can, *of itself*, move itself or any thing else) yet I do not think, you will so far deny men to be free agents, from the difficulty there is to see how they are free agents, as to doubt whether *there be foundation enough for a day of judgment*.

It is not for me to judge how far your lordship's speculation reach : but finding in myself nothing to be truer than what the wise Solomon tells me †, *As thou knowest not what is the way of the spirit, nor how*

* Tusculan. Quæst. lib. 1. cap. 23. † Eccl. xi. 5.

which depend and from which result those qualities which make our complex idea of gold, it is impossible we should know what other qualities result from, or are incompatible with the same

the bones do grow in the womb of her that is with child; even so thou knowest not the works of God who maketh all things. I gratefully receive and rejoice in the light of revelation, which sets me at rest in many things; the manner whereof my poor reason can by no means make out to me: omnipotency, I know, can do any thing that contains in it no contradiction; so that I readily believe whatever God has declared, though my reason find difficulties in it, which it cannot master. As in the present case, God having revealed that there shall be a day of judgment, I think that *foundation* enough to conclude men are *free* enough to be made answerable for their actions, and to receive according to what they have done, though how man is a *free agent* surpasses my explication or comprehension.

In answer to the place I brought out of St Luke *, your lordship asks †, *Whether, from these words of our Saviour, it follows, that a spirit is only an appearance.* I answer, No; nor do I know who drew such an inference from them: but it follows, that in *apparitions* there is something that appears, and that which appears is not wholly immaterial; and yet this was properly called *πνευμα*, and was often looked upon, by those who called it *πνευμα* in Greek, and now call it *spirit* in English, to be the ghost or soul of one departed; which, I humbly conceive, justifies my use of the word *spirit* for a thinking voluntary agent, whether material or immaterial.

* Chap xxiv. ver. 39.

† First answer, p. 66.

constitution of the insensible parts of gold ; and so consequently must always co-exist with that complex idea we have of it, or else are inconsistent with it.

§ 12. Besides this ignorance of the primary qualities of the insensible parts of bodies, on which depend all their secondary qualities, there is yet another and more incurable part of ignorance, which sets us more remote from a certain knowledge of the co-existence or inco-existence, if I may so say, of different ideas in the same subject ; and that is, that there is no discoverable connection between any secondary quality, and those primary qualities which it depends on.

§ 13. That the size, figure, and motion of one body should cause a change in the size, figure, and motion of another body, is not beyond our conception : the separation of the parts of one body, upon the intrusion of another, and the change from rest to motion, upon impulse ; these, and

Your lordship says *, *That I grant, ' that it cannot, ' upon these principles be demonstrated, that the spiritual substance in us is immaterial : ' from whence you conclude, That then my grounds of certainty, from ideas, are plainly given up.* This being a way of arguing that you often make use of, I have often had occasion to consider it, and cannot, after all, see the force of this argument. I acknowledge, that this or that proposition cannot, upon my principles, be demonstrated ; *ergo*, I grant this proposition to be false. ' That certainty consists in the perception of the agreement or disagreement of ideas. For that is my ground of certainty, and till that be given up, *my grounds of certainty are not given up.*

* First answer, p. 67.

the like, seem to us to have some connection one with another. And if we knew these primary qualities of bodies, we might have reason to hope, we might be able to know a great deal more of these operations of them one upon another: but our minds not being able to discover any connection betwixt these primary qualities of bodies, and the sensations that are produced in us by them, we can never be able to establish certain and undoubted rules, of the consequences or co-existence of any secondary qualities, though we could discover the size, figure, or motion of those invisible parts, which immediately produce them. We are so far from knowing what figure, size, or motion of parts produce a yellow colour, a sweet taste, or a sharp sound, that we can by no means conceive how any size, figure, or motion of any particles, can possibly produce in us the idea of any colour, taste, or sound whatsoever; there is no conceivable connection betwixt the one and the other.

§ 14. In vain therefore shall we endeavour to discover by our ideas, (the only true way of certain and universal knowledge,) what other ideas are to be found constantly joined with that of our complex idea of any substance: since we neither know the real constitution of the minute parts on which their qualities do depend; nor, did we know them, could we discover any necessary connection between them, and any of the secondary qualities: which is necessary to be done, before we can certainly know their necessary co-existence. So that let our complex idea of any species of substances be what it will, we can hardly, from the simple ideas contained in it, certainly determine the necessary co-existence of any other quality

whatsoever. Our knowledge in all these inquiries, reaches very little farther than our experience. Indeed some few of the primary qualities have a necessary dependence, and visible connection one with another, as figure necessarily supposes extension; receiving or communicating motion by impulse, supposes solidity. But though these, and perhaps some other of our ideas have, yet there are so few of them that have a visible connection one with another, that we can by intuition or demonstration, discover the co-existence of very few of the qualities are to be found united in substances: and we are left only to the assistance of our senses, to make known to us what qualities they contain. For of all the qualities that are co-existent in any subject, without this dependence and evident connection of their ideas one with another, we cannot know certainly any two to co-exist any farther, than experience, by our senses, informs us. Thus though we see the yellow colour, and upon trial find the weight, malleableness, fusibility, and fixedness, that are united in a piece of gold; yet because no one of these ideas has any evident dependence, or necessary connection with the other, we cannot certainly know, that where any four of these are, the fifth will be there also, how highly probable soever it may be: because the highest probability amounts not to certainty; without which there can be no true knowledge. For this co-existence can be no farther known, than it is perceived; and it cannot be perceived but either in particular subjects, by the observation of our senses, or in general, by the necessary connection of the ideas themselves.

§ 15. As to the *incompatibility* or *repugnancy* to co-existence, we may know, that any subject can

have of each sort of primary qualities, but one particular at once, *v. g.* each particular extension, figure, number of parts, motion, excludes all other of each kind. The like also is certain of all sensible ideas peculiar to each sense; for whatever of each kind is present in any subject, excludes all other of that sort; *v. g.* no one subject can have two smells, or two colours at the same time. To this, perhaps, will be said, has not an opall, or the infusion of *lignum nephriticum*, two colours at the same time? To which I answer, that these bodies, to eyes differently placed, may at the same time afford different colours: but I take liberty also to say, that to eyes differently placed, it is different parts of the object that reflect the particles of light: and therefore it is not the same part of the object, and so not the very same subject, which at the same time appears both yellow and azure. For, it is as impossible that the very same particle of any body, should, at the same time, differently modify or reflect the rays of light, as that it should have two different figures and textures at the same time.

§ 16. But as to the *powers* of substances to change the sensible qualities of other bodies, which make a great part of our inquiries about them, and is no inconsiderable branch of our knowledge; I doubt, as to these, whether our knowledge reaches much farther than our experience; or whether we can come to the discovery of most of these powers, and be certain that they are in any subject by the connection with any of those ideas, which to us make its essence. Because the active and passive powers of bodies, and their ways of operating, consisting in a texture and motion of parts, which we cannot, by any means,

come to discover: it is but in very few cases, we can be able to perceive their dependence on, or repugnance to any of those ideas, which make our complex one of that sort of things. I have here instanced in the corpuscularian hypothesis, as that which is thought to go farthest in an intelligible explication of the qualities of bodies; and, I fear, the weakness of human understanding is scarce able to substitute another, which will afford us a fuller and clearer discovery of the necessary connection, and co-existence of the powers, which are to be observed united in several sorts of them. This at least is certain, that which ever hypothesis be clearest and truest, (for of that it is not my business to determine), our knowledge concerning corporeal substances, will be very little advanced by any of them, till we are made to see what qualities and powers of bodies have a necessary connection or repugnancy one with another; which, in the present state of philosophy, I think, we know but to a very small degree: and, I doubt, whether with those faculties we have, we shall ever be able to carry our general knowledge (I say not particular experience) in this part much farther. Experience is that, which, in this part, we must depend on. And it were to be wished, that it were more improved. We find the advantages some mens generous pains have this way brought to the stock of natural knowledge. And if others, especially the philosophers by fire, who pretend to it, had been so wary in their observations, and sincere in their reports, as those who call themselves philosophers ought to have been; our acquaintance with the bodies here about us, and our insight into their powers and operations, had been yet much greater.

§ 17. If we are at a loss in respect of the powers and operations of bodies, I think it is easy to conclude, we are much more in the dark in reference to spirits: whereof we naturally have no ideas, but what we draw from that of our own, by reflecting on the operations of our own souls within us, as far as they can come within our observation. But how inconsiderable a rank the spirits that inhabit our bodies, hold amongst those various, and possibly innumerable, kinds of nobler beings; and how far short they come of the endowments and perfection of cherubims and seraphims, and infinite sorts of spirits above us, is what, by a transient hint, in another place, I have offered to my reader's consideration.

§ 18. As to the third sort of our knowledge, *viz.* the *agreement* or *disagreement* of any of our ideas in any other relation: this, as it is the largest field of our knowledge, so it is hard to determine how far it may extend: because the advances that are made in this part of knowledge, depending on our sagacity, in finding intermediate ideas, that may shew the relations and habitudes of ideas, whose co-existence is not considered, it is a hard matter to tell when we are at an end of such discoveries; and when reason has all the helps it is capable of, for the finding of proofs, or examining the agreement or disagreement of remote ideas. They that are ignorant of algebra, cannot imagine the wonders in this kind are to be done by it; and what farther improvements and helps, advantageous to other parts of knowledge, the sagacious mind of man may yet find out, it is not easy to determine. This at least I believe, that the ideas of quantity are not those alone that are capable of demonstration and knowledge; and that other, and perhaps

more useful parts of contemplation, would afford us certainty, if vices, passions, and domineering interest did not oppose, or menace such endeavours.

The idea of a supreme Being, infinite in power, goodness, and wisdom, whose workmanship we are, and on whom we depend; and the idea of ourselves, as understanding rational beings, being such as are clear in us, would, I suppose, if duly considered and pursued, afford such foundations of our duty and rules of actions, as might place morality amongst the sciences capable of demonstration: wherein I doubt not, but from self-evident propositions, by necessary consequences, as incontestable as those in mathematics, the measures of right and wrong might be made out, to any one that will apply himself with the same indifferency and attention to the one, as he does to the other of these sciences. The relation of other modes may certainly be perceived as well as those of number and extension: and I cannot see why they should not also be capable of demonstration, if due methods were thought on to examine, or pursue their agreement or disagreement. *Where there is no property, there is no injustice*, is a proposition as certain as any demonstration in Euclid: for the idea of *property*, being a right to any thing; and the idea to which the name *injustice* is given, being the invasion or violation of that right; it is evident, that those ideas being thus established, and these names annexed to them, I can as certainly know this proposition to be true, as that a triangle has three angles equal to two right ones. Again, *No government allows absolute liberty*: the idea of *government* being the establishment of society upon certain rules or laws, which

require conformity to them; and the idea of *absolute liberty* being for any one to do whatever he pleases; I am as capable of being certain of the truth of this proposition, as of any in the mathematics.

§ 19. That which in this respect has given the advantage to the ideas of quantity, and made them thought more capable of certainty and demonstration, is,

First, That they can be set down and represented by sensible marks, which have a greater and nearer correspondence with them than any words or sounds whatsoever. Diagrams drawn on paper are copies of the ideas in the mind, and not liable to the uncertainty that words carry in their signification. An angle, circle, or square, drawn in lines, lies open to the view, and cannot be mistaken: it remains unchangeable, and may at leisure be considered and examined, and the demonstration be revised, and all the parts of it may be gone over more than once, without any danger of the least change in the ideas. This cannot be thus done in moral ideas, we have no sensible marks that resemble them, whereby we can set them down; we have nothing but words to express them by; which though, when written, they remain the same, yet the ideas they stand for, may change in the same man; and it is very seldom, that they are not different in different persons.

Secondly, Another thing that makes the greater difficulty in ethics, is, that moral ideas are commonly more complex than those of the figures ordinarily considered in mathematics. From whence these two inconveniencies follow. 1. That their names are of more uncertain signification, the precise collection of simple ideas they stand for not being so easily agreed on, and so the sign that

is used for them in communication always, and in thinking often, does not steadily carry with it the same idea. Upon which the same disorder, confusion, and error follows, as would if a man, going to demonstrate something of an heptagon, should in the diagram he took to do it, leave out one of the angles, or by over-sight make the figure with one angle more than the name ordinarily imported, or he intended it should, when at first he thought of his demonstration. This often happens, and is hardly avoidable in very complex moral ideas, where the same name being retained, one angle, *i. e.* one simple idea, is left out or put in, in the complex one, still called by the same name, more at one time than another. 2. From the complexedness of these moral ideas there follows another inconvenience, *viz.* that the mind cannot easily retain those precise combinations, so exactly and perfectly, as is necessary in the examination of the habitudes and correspondencies, agreement or disagreement, of several of them one with another; especially where it is to be judged of by long deductions, and the intervention of several other complex ideas, to shew the agreement or disagreement of two remote ones.

The great help against this, which mathematicians find in diagrams and figures, which remain unalterable in their draughts, is very apparent, and the memory would often have great difficulty otherwise to retain them so exactly, whilst the mind went over the parts of them, step by step, to examine their several correspondencies: and though in casting up a long sum, either in addition, multiplication, or division, every part be only a progression of the mind, taking a view of its own ideas, and considering their agreement

or disagreement; and the resolution of the question be nothing but the result of the whole, made up of such particulars, whereof the mind has a clear perception; yet without setting down the several parts by marks, whose precise significations are known, and by marks, that last and remain in view when the memory had let them go, it would be almost impossible to carry so many different ideas in mind, without confounding or letting slip some parts of the reckoning, and thereby making all our reasonings about it useless. In which case, the cyphers or marks help not the mind at all to perceive the agreement of any two or more numbers, their equalities or proportions; that the mind has only by intuition of its own ideas of the numbers themselves. But the numerical characters are helps to the memory, to record and retain the several ideas about which the demonstration is made, whereby a man may know how far his intuitive knowledge, in surveying several of the particulars, has proceeded; that so he may, without confusion, go on to what is yet unknown, and, at last, have in one view before him the result of all his perceptions and reasonings.

§ 20. One part of these disadvantages in moral ideas, which has made them be thought not capable of demonstration, may, in a good measure, be remedied by definitions, setting down that collection of simple ideas, which every term shall stand for, and then using the terms steadily and constantly for that precise collection. And what methods algebra, or something of that kind, may hereafter suggest, to remove the other difficulties, it is not easy to foretel. Confident I am, that if men would, in the same method, and with the same indifference, search after moral, as they do

mathematical truths, they would find them to have a stronger connection one with another, and a more necessary consequence from our clear and distinct ideas, and to come nearer perfect demonstration, than is commonly imagined. But much of this is not to be expected, whilst the desire of esteem, riches, or power, makes men espouse the well-endowed opinions in fashion, and then seek arguments, either to make good their beauty, or varnish over and cover their deformity. Nothing being so beautiful to the eye, as truth is to the mind; nothing so deformed and irreconcilable to the understanding, as a lie. For though many a man can, with satisfaction enough, own a no very handsome wife in his bosom; yet who is bold enough openly to avow, that he has espoused a falsehood, and received into his breast so ugly a thing as a lie? Whilst the parties of men cram their tenets down all mens throats, whom they can get into their power, without permitting them to examine their truth or falsehood, and will not let truth have fair play in the world, nor men the liberty to search after it; what improvements can be expected of this kind? What greater light can be hoped for in the moral sciences? The subject part of mankind, in most places, might, instead thereof, with Ægyptian bondage, expect Ægyptian darkness, were not the candle of the LORD set up by himself in mens minds, which it is impossible for the breath or power of man wholly to extinguish.

§ 21. As to the fourth sort of our knowledge, *viz.* of the *real actual existence of things*, we have an intuitive knowledge of our own existence; a demonstrative knowledge of the existence of a GOD; of the existence of any thing else, we have no o-

ther but a sensitive knowledge, which extends not beyond the objects present to our senses.

§ 22. Our knowledge being so narrow, as I have shewed, it will perhaps give us some light into the present state of our minds, if we look a little into the dark side, and take a view of our ignorance: which being infinitely larger than our knowledge, may serve much to the quieting of disputes, and improvement of useful knowledge; if discovering how far we have clear and distinct ideas, we confine our thoughts within the contemplation of those things that are within the reach of our understandings, and launch not out into that abyfs of darkness, (where we have not eyes to see, nor faculties to perceive any thing), out of a presumption, that nothing is beyond our comprehension. But to be satisfied of the folly of such a conceit, we need not go far. He that knows any thing, knows this in the first place, that he need not seek long for instances of his ignorance. The meanest and most obvious things that come in our way, have dark sides, that the quickest sight cannot penetrate into. The clearest and most enlarged understandings of thinking men, find themselves puzzled, and at a loss, in every particle of matter. We shall the less wonder to find it so, when we consider the causes of our ignorance, which, from what has been said, I suppose, will be found to be these three:

1. Want of ideas.
2. Want of a discoverable connection between the ideas we have.
3. Want of tracing and examining our ideas.

§ 23. *First*, There are some things, and those not a few, that we are ignorant of for want of ideas.

First, All the simple ideas we have are confined, as I have shewn, to those we receive from corporeal objects by *sensation*, and from the operations of our own minds as the objects of *reflection*. But how much these few and narrow inlets are disproportionate to the vast whole extent of all beings, will not be hard to persuade those who are not so foolish as to think their span the measure of all things. What other simple ideas it is possible the creatures in other parts of the universe may have, by the assistance of senses and faculties more or perfecter, than we have, or different from ours, it is not for us to determine: but to say or think there are no such, because we conceive nothing of them, is no better an argument, than if a blind man should be positive in it, that there was no such thing as sight and colours, because he had no manner of idea of any such thing, nor could by any means frame to himself any notions about seeing. The ignorance and darkness that is in us, no more hinders nor confines the knowledge that is in others, than the blindness of a mole is an argument against the quick-sightedness of an eagle. He that will consider the infinite power, wisdom, and goodness of the Creator of all things, will find reason to think it was not all laid out upon so inconsiderable, mean, and impotent a creature, as he will find man to be; who, in all probability, is one of the lowest of all intellectual beings. What faculties therefore other species of creatures have to penetrate into the nature and inmost constitutions of things; what ideas they may receive of them, far different from ours, we know not. This we know, and certainly find, that we want several other views of them, besides those we have, to make discoveries of them

more perfect. And we may be convinced that the ideas we can attain to by our faculties, are very disproportionate to things themselves, when a positive, clear, distinct one of substance itself, which is the foundation of all the rest, is concealed from us. But want of ideas of this kind, being a part as well as cause of our ignorance, cannot be described. Only this, I think, I may confidently say of it, that the intellectual and sensible world are in this perfectly alike ; that that part, which we see of either of them, holds no proportion with what we see not ; and whatsoever we can reach with our eyes, or our thoughts, of either of them, is but a point, almost nothing, in comparison of the rest.

§ 24. *Secondly*, Another great cause of ignorance, is the want of ideas we are capable of. As the want of ideas, which our faculties are not able to give us, shuts us wholly from those views of things, which it is reasonable to think other beings, perfecter than we, have, of which we know nothing ; so the want of ideas, I now speak of, keeps us in ignorance of things we conceive capable of being known to us. Bulk, figure, and motion, we have ideas of. But though we are not without ideas of these primary qualities of bodies in general, yet not knowing what is the particular bulk, figure, and motion, of the greatest part of the bodies of the universe, we are ignorant of the several powers, efficacies, and ways of operation, whereby the effects, which we daily see, are produced. These are hid from us in some things, by being too remote ; and in others by being too minute. When we consider the vast distance of the known and visible parts of the world, and the reasons we have to think, that what lies

within our ken, is but a small part of the immense universe, we shall then discover an huge abyfs of ignorance. What are the particular fabrics of the great masses of matter, which make up the whole stupendious frame of corporeal beings; how far they are extended, what is their motion, and how continued, or communicated; and what influence they have one upon another, are contemplations, that at first glimpse our thoughts lose themselves in. If we narrow our contemplation, and confine our thoughts to this little canton, I mean this system of our sun, and the grosser masses of matter, that visibly move about it, what several sorts of vegetables, animals, and intellectual corporeal beings, infinitely different from those of our little spot of earth, may there probably be in the other planets, to the knowledge of which, even of their outward figures and parts, we can no way attain, whilst we are confined to this earth, there being no natural means, either by sensation or reflection, to convey their certain ideas into our minds? They are out of the reach of those inlets of all our knowledge: and what sorts of furniture and inhabitants those mansions contain in them, we cannot so much as guess, much less have clear and distinct ideas of them.

§ 25. If a great, nay, far the greatest part of the several ranks of bodies in the universe, escape our notice by their remoteness, there are others that are no less concealed from us by their minuteness. These insensible corpuscles, being the active parts of matter, and the great instruments of nature, on which depend not only all their secondary qualities, but also most of their natural operations, our want of precise distinct ideas of their primary qualities, keeps us in an incurable igno-

rance of what we desire to know about them. I doubt not but if we could discover the figure, size, texture, and motion of the minute constituent parts of any two bodies, we should know without trial several of their operations one upon another, as we do now the properties of a square, or a triangle. Did we know the mechanical affections of the particles of rhubarb, hemlock, opium, and a man, as a watchmaker does those of a watch, whereby it performs its operations, and of a file which, by rubbing on them, will alter the figure of any of the wheels, we should be able to tell beforehand, that rhubarb will purge, hemlock kill, and opium make a man sleep, as well as a watchmaker can, that a little piece of paper laid on the balance will keep the watch from going, till it be removed; or that some small part of it, being rubbed by a file, the machine would quite lose its motion, and the watch go no more. The dissolving of silver in *aqua fortis*, and gold in *aqua regia*, and not *vice versa*, would be then perhaps no more difficult to know, than it is to a smith to understand why the turning of one key will open a lock, and not the turning of another. But whilst we are destitute of senses acute enough to discover the minute particles of bodies, and to give us ideas of their mechanical affections, we must be content to be ignorant of their properties and ways of operation; nor can we be assured about them, any farther than some few trials we make are able to reach. But whether they will succeed again another time, we cannot be certain. This hinders our certain knowledge of universal truths concerning natural bodies; and our reason carries us herein very little beyond particular matter of fact.

§ 26. And therefore I am apt to doubt, that how far soever human industry may advance useful and experimental philosophy in physical things, scientific will still be out of our reach ; because we want perfect and adequate ideas of those very bodies, which are nearest to us, and most under our command. Those which we have ranked into classes under names, and we think ourselves best acquainted with, we have but very imperfect and incomplete ideas of. Distinct ideas of the several sorts of bodies, that fall under the examination of our senses, perhaps, we may have : but adequate ideas, I suspect, we have not of any one amongst them. And though the former of these will serve us for common use and discourse, yet whilst we want the latter, we are not capable of scientific knowledge ; nor shall ever be able to discover general, instructive, unquestionable truths concerning them. Certainty and demonstration, are things we must not, in these matters pretend to. By the colour, figure, taste, and smell, and other sensible qualities, we have as clear and distinct ideas of sage and hemlock, as we have of a circle and a triangle : but having no ideas of the particular primary qualities of the minute parts of either of these plants, nor of other bodies which we would apply them to, we cannot tell what effects they will produce ; nor when we see those effects, can we so much as guess, much less know, their manner of production. Thus having no ideas of the particular mechanical affections of the minute parts of bodies that are within our view and reach, we are ignorant of their constitutions, powers, and operations : and of bodies more remote, we are yet more ignorant, not knowing so much as their very out-

ward shapes, or the sensible and groffer parts of their constitutions.

§ 27. This, at first sight, will shew us how disproportionate our knowledge is to the whole extent even of material beings; to which, if we add the consideration of that infinite number of spirits that may be, and probably are, which are yet more remote from our knowledge, whereof we have no cognizance, nor can frame to ourselves any distinct ideas of their several ranks and sorts, we shall find this cause of ignorance conceal from us, in an impenetrable obscurity, almost the whole intellectual world; a greater certainly, and more beautiful world than the material. For bating some very few, and those, if I may so call them, superficial ideas of spirit, which by reflection we get of our own, and from thence, the best we can collect, of the Father of all spirits, the eternal independent Author of them and us, and all things; we have no certain information, so much as of the existence of other spirits, but by revelation. Angels of all sorts are naturally beyond our discovery: and all those intelligences, whereof it is likely there are more orders than of corporeal substances, are things whereof our natural faculties give us no certain account at all. That there are minds, and thinking beings in other men as well as himself, every man has a reason, from their words and actions, to be satisfied: and the knowledge of his own mind cannot suffer a man, that considers, to be ignorant that there is a God. But that there are degrees of spiritual beings between us and the great God, who is there that by his own search and ability can come to know? Much less have we distinct ideas of their different natures, conditions, states,

powers, and several constitutions; wherein they agree or differ from one another, and from us. And therefore in what concerns their different species and properties, we are under an absolute ignorance.

§ 28. *Secondly*, What a small part of the substantial beings, that are in the universe, the want of ideas leave open to our knowledge, we have seen. In the next place, another cause of ignorance, of no less moment, is a want of a discoverable connection between those ideas we have. For wherever we want that, we are utterly incapable of universal and certain knowledge; and are, as in the former case, left only to observation and experiment: which, how narrow and confined it is, how far from general knowledge, we need not be told. I shall give some few instances of this cause of our ignorance, and so leave it. It is evident, that the bulk, figure and motion of several bodies about us, produce in us several sensations, as of colours, sounds, tastes, smells, pleasure and pain, &c. These mechanical affections of bodies, having no affinity at all with those ideas they produce in us, (there being no conceivable connection between any impulse of any sort of body, and any perception of a colour or smell, which we find in our minds), we can have no distinct knowledge of such operations beyond our experience; and can reason no otherwise about them, than as effects produced by the appointment of an infinitely wise Agent, which perfectly surpasses our comprehensions. As the ideas of sensible secondary qualities, which we have in our minds, can, by us, be no way deduced from bodily causes, nor any correspondence or connection be found between them and those primary qualities which (experience

shews us) produce them in us ; so, on the other side, the operation of our minds upon our bodies is as inconceivable. How any thought should produce a motion in body, is as remote from the nature of our ideas, as how any body should produce any thought in the mind. That it is so, if experience did not convince us, the consideration of the things themselves would never be able, in the least, to discover to us. These, and the like, though they have a constant and regular connection, in the ordinary course of things; yet that connection being not discoverable in the ideas themselves, which appearing to have no necessary dependence one on another, we can attribute their connection to nothing else, but the arbitrary determination of that all-wise Agent, who has made them to be, and to operate as they do, in a way wholly above our weak understandings to conceive.

•§ 29. In some of our ideas there are certain relations, habitudes, and connections, so visibly included in the nature of the ideas themselves; that we cannot conceive them separable from them, by any power whatsoever. And in these only, we are capable of certain and universal knowledge. Thus the idea of a right-lined triangle necessarily carries with it an equality of its angles to two right ones. Nor can we conceive this relation, this connection of these two ideas, to be possibly mutable, or to depend on any arbitrary power, which of choice made it thus, or could make it otherwise. But the coherence and continuity of the parts of matter; the production of sensation in us of colours and sounds, &c. by impulse and motion; nay, the original rules and communication of motion being such, wherein we can discover no

natural connection with any ideas we have, we cannot but ascribe them to the arbitrary will and good pleasure of the wise Architect. I need not, I think, here mention the resurrection of the dead, the future state of this globe of earth, and such other things, which are by every one acknowledged to depend wholly on the determination of a free agent. The things that, as far as our observation reaches, we constantly find to proceed regularly, we may conclude, do act by a law set them; but yet by a law that we know not: whereby, though causes work steadily, and effects constantly flow from them, yet their connections and dependencies being not discoverable in our ideas, we can have but an experimental knowledge of them. From all which it is easy to perceive, what a darkness we are involved in, how little it is of being, and the things that are, that we are capable to know. And therefore we shall do no injury to our knowledge when we modestly think with ourselves, that we are so far from being able to comprehend the whole nature of the universe, and all the things contained in it, that we are not capable of a philosophical knowledge of the bodies that are about us, and make a part of us: concerning their secondary qualities, powers, and operations, we can have no universal certainty. Several effects come every day within the notice of our senses, of which we have so far sensitive knowledge: but the causes, manner and certainty of their production, for the two foregoing reasons, we must be content to be very ignorant of. In these we can go no farther than particular experience informs us of matter of fact, and by analogy to guess what effects the like bodies are, upon other trials, like to produce. But as to a perfect science of natural

bodies, (not to mention spiritual beings), we are, I think, so far from being capable of any such thing, that I conclude it lost labour to seek after it.

§ 30. *Thirdly*, Where we have adequate ideas, and where there is a certain and discoverable connection between them, yet we are often ignorant, for want of tracing those ideas which we have, or may have; and for want of finding out those intermediate ideas, which may shew us what habitude of agreement or disagreement they have one with another. And thus many are ignorant of mathematical truths, not out of any imperfection of their faculties, or uncertainty in the things themselves, but for want of application in acquiring, examining, and by due ways comparing those ideas. That which has most contributed to hinder the due tracing of our ideas, and finding out their relations, and agreements or disagreements one with another, has been, I suppose, the ill use of words. It is impossible that men should ever truly seek, or certainly discover the agreement or disagreement of ideas themselves, whilst their thoughts flutter about, or stick only in sounds of doubtful and uncertain significations. Mathematicians abstracting their thoughts from names, and accustoming themselves to set before their minds the ideas themselves that they would consider, and not sounds instead of them, have avoided thereby a great part of that perplexity, puddering, and confusion, which has so much hindered mens progress in other parts of knowledge. For whilst they stick in words of undetermined and uncertain signification, they are unable to distinguish true from false, certain from probable, consistent from inconsistent, in their own

opinions. This having been the fate or misfortune of a great part of the men of letters, the increase brought into the stock of real knowledge, has been very little, in proportion to the schools, disputes, and writings, the world has been filled with; whilst students, being lost in the great wood of words, knew not whereabout they were, how far their discoveries were advanced, or what was wanting in their own, or the general stock of knowledge. Had men, in the discoveries of the material, done as they have in those of the intellectual world, involved all in the obscurity of uncertain and doubtful ways of talking, volumes writ of navigation and voyages, theories and stories of zones and tides, multiplied and disputed; nay, ships built, and fleets set out, would never have taught us the way beyond the line; and the Antipodes would be still as much unknown, as when it was declared heresy to hold there were any. But having spoken sufficiently of words, and the ill or careless use that is commonly made of them, I shall not say any thing more of it here.

§ 31. Hitherto we have examined the *extent* of our knowledge, in respect of the several sorts of beings that are. There is another *extent of it, in respect of universality*, which will also deserve to be considered: and in this regard, our knowledge follows the nature of our ideas. If the ideas are abstract, whose agreement or disagreement we perceive, our knowledge is universal. For what is known of such general ideas, will be true of every particular thing, in whom that essence, *i. e.* that abstract idea is to be found: and what is once known of such ideas, will be perpetually and for ever true. So that as to all ge-

neral knowledge, we must search and find it only in our own minds, and it is only the examining of our own ideas, that furnisheth us with that. Truths belonging to essences of things, (that is, to abstract ideas), are eternal, and are to be found out by the contemplation only of those essences : as the existences of things are to be known only from experience. But having more to say of this in the chapters where I shall speak of general and real knowledge, this may here suffice as to the universality of our knowledge in general.

C H A P. IV.

Of the REALITY of KNOWLEDGE.

§ 1. *Objection, knowledge placed in ideas, may be all bare vision.* § 2, 3, *Answer, not so where ideas agree with things.* § 4. *As, first, All simple ideas do.* § 5. *Secondly, All complex ideas, except of substances.* § 6. *Hence the reality of mathematical knowledge.* § 7. *And of moral.* § 8. *Existence not required to make it real.* § 9. *Nor will it be less true or certain, because moral ideas are of our own making and naming.* § 10. *Misnaming disturbs not the certainty of the knowledge.* § 11. *Ideas of substances have their archetypes without us.* § 12. *So far as they agree with those, so far our knowledge concerning them is real.* § 13. *In our inquiries about substances, we must consider ideas, and not confine our thoughts to names or species supposed set out by names.* § 14, 15. *Objection against a changeling, being something between man and beast, answered.* § 16. *Monsters.* § 17. *Words and species.* § 18. *Recapitulation.*

§ 1. **I** DOUBT not but my reader by this time may be apt to think, that I have been all this while only building a castle in the air; and be ready to say to me, To what purpose all this stir? Knowledge, say you, is only the perception of the agreement or disagreement of our own ideas: but who knows what those ideas may be? Is there any thing so extravagant, as the imagina-

tions of mens brains? Where is the head that has no chimeras in it? Or if there be a sober and a wise man, what difference will there be, by your rules, between his knowledge, and that of the most extravagant fancy in the world? They both have their ideas, and perceive their agreement and disagreement one with another. If there be any difference between them, the advantage will be on the warm-headed man's side, as having the more ideas, and the more lively. And so, by your rules, he will be the more knowing. If it be true, that all knowledge lies only in the perception of the agreement or disagreement of our own ideas, the visions of an enthusiast, and the reasonings of a sober man, will be equally certain. It is no matter how things are; so a man observe but the agreement of his own imaginations, and talk conformably, it is all truth, all certainty. Such castles in the air, will be as strong-holds of truth, as the demonstrations of Euclid. That an harpy is not a centaur, is by this way as certain knowledge, and as much a truth, as that a square is not a circle.

But of what use is all this fine knowledge of mens own imaginations, to a man that inquires after the reality of things? It matters not what mens fancies are, it is the knowledge of things that is only to be prized: it is this alone gives a value to our reasonings, and preference to one man's knowledge over another's, that it is of things as they really are, and not of dreams and fancies.

§ 2. To which I answer, that if our knowledge of our ideas terminate in them, and reach no farther, where there is something farther intended, our most serious thoughts will be of little more use, than the reveries of a crazy brain; and the truths built thereon of no more weight, than the

discourses of a man, who sees things clearly in a dream, and with great assurance utters them. But, I hope, before I have done, to make it evident, that this way of certainty, by the knowledge of our own ideas, goes a little farther than bare imagination : and I believe it will appear, that all the certainty of general truths a man has, lies in nothing else.

§ 3. It is evident, the mind knows not things immediately, but only by the intervention of the ideas it has of them. Our knowledge therefore is real, only so far as there is a conformity between our ideas and the reality of things. But what shall be here the criterion ? How shall the mind, when it perceives nothing but its own ideas, know that they agree with things themselves ? This though it seems not to want difficulty, yet I think there be two sorts of ideas, that, we may be assured, agree with things.

§ 4. *First*, The first are simple ideas, which since the mind, as has been shewed, can by no means make to itself, must necessarily be the product of things operating on the mind in a natural way, and producing therein those perceptions which by the wisdom and will of our Maker they are ordained and adapted to. From whence it follows, that simple ideas are not fictions of our fancies, but the natural and regular productions of things without us, really operating upon us ; and so carry with them all the conformity which is intended, or which our state requires : for they represent to us things under those appearances which they are fitted to produce in us : whereby we are enabled to distinguish the sorts of particular substances, to discern the states they are in, and so to take them for our necessities, and apply

them to our uses. Thus the idea of whiteness or bitterness, as it is in the mind, exactly answering that power which is in any body to produce it there, has all the real conformity it can, or ought to have, with things without us. And this conformity between our simple ideas, and the existence of things, is sufficient for real knowledge.

§ 5. Secondly, *All our complex ideas, except those of substances*, being archetypes of the mind's own making, not intended to be the copies of any thing, nor referred to the existence of any thing, as to their originals, cannot want any conformity necessary to real knowledge. For that which is not designed to represent any thing but itself, can never be capable of a wrong representation, nor mislead us from the true apprehension of any thing, by its dissimilarity to it: and such, excepting those of substances, are all our complex ideas. Which, as I have shewed in another place, are combinations of ideas, which the mind, by its free choice, puts together, without considering any connection they have in nature. And hence it is, that in all these sorts, the ideas themselves are considered as the archetypes, and things no otherwise regarded but as they are conformable to them. So that we cannot but be infallibly certain, that all the knowledge we attain concerning these ideas is real, and reaches things themselves. Because in all our thoughts, reasonings, and discourses of this kind, we intend things no farther than as they are conformable to our ideas. So that in these, we cannot miss of a certain and undoubted reality.

§ 6. I doubt not but it will be easily granted, that the *knowledge* we have of *mathematical truths*, is not only certain, but *real knowledge*; and not

the bare empty vision of vain insignificant chimeras of the brain : and yet, if we will consider, we shall find that it is only of our own ideas. The mathematician considers the truth and properties belonging to a rectangle or circle, only as they are in idea in his own mind. For it is possible he never found either of them existing mathematically, *i. e.* precisely true, in his life. But yet the knowledge he has of any truths or properties belonging to a circle, or any other mathematical figure, are nevertheless true and certain, even of real things existing : because real things are no farther concerned, nor intended to be meant by any such propositions, than as things really agree to those archetypes in his mind. Is it true of the idea of a triangle, that its three angles are equal to two right ones? It is true also of a triangle, wherever it really exists. Whatever other figure exists, that is not exactly answerable to the idea of a triangle in his mind, is not at all concerned in that proposition. And therefore he is certain all his knowledge concerning such ideas, is real knowledge : because intending things no farther than they agree with those his ideas, he is sure what he knows concerning those figures, when they have barely an ideal existence in his mind, will hold true of them also, when they have real existence in matter ; his consideration being barely of those figures, which are the same, wherever, or however they exist.

§ 7. And hence it follows, that moral knowledge is as capable of real certainty, as mathematics. For certainty being but the perception of the agreement or disagreement of our ideas ; and demonstration nothing but the perception of such agreement, by the intervention of other ideas, or

mediums, our moral ideas, as well as mathematical, being archetypes themselves, and so adequate and complete ideas; all the agreement or disagreement, which we shall find in them, will produce real knowledge, as well as in mathematical figures.

§ 8. For the attaining of knowledge and certainty, it is requisite that we have determined ideas: and to make our knowledge real, it is requisite that the ideas answer their archetypes. Nor let it be wondered, that I place the certainty of our knowledge in the consideration of our ideas, with so little care and regard (as it may seem) to the real existence of things: since most of those discourses, which take up the thoughts, and engage the disputes of those who pretend to make it their business to inquire after truth and certainty, will, I presume, upon examination, be found to be general propositions, and notions in which existence is not at all concerned. All the discourses of the mathematicians, about the squaring of a circle, conic sections, or any other part of mathematics, concern not the existence of any of those figures; but their demonstrations, which depend on their ideas, are the same, whether there be any square or circle existing in the world, or no. In the same manner, the truth and certainty of moral discourses abstracts from the lives of men, and the existence of those virtues in the world whereof they treat: nor are Tully's Offices less true, because there is no body in the world that exactly practises his rules, and lives up to that pattern of a virtuous man, which he has given us, and which existed no-where, when he writ, but in idea. If it be true in speculation, *i. e.* in idea, that murder deserves death, it will also be

true in reality of any action that exists conformable to that idea of murder. As for other actions, the truth of that proposition concerns them not. And thus it is of all other species of things, which have no other essences, but those ideas which are in the minds of men.

§ 9. But it will here be said, that if moral knowledge be placed in the contemplation of our own moral ideas, and those, as other modes, be of our own making, what strange notions will there be of justice and temperance? What confusion of virtues and vices, if every one may make what ideas of them he pleases? No confusion nor disorder in the things themselves, nor the reasonings about them; no more than, in mathematics, there would be a disturbance in the demonstration, or a change in the properties of figures, and their relations one to another, if a man should make a triangle with four corners, or a trapezium with four right angles; that is, in plain English, change the names of the figures, and call that by one name, which mathematicians call ordinarily by another. For let a man make to himself the idea of a figure with three angles, whereof one is a right one, and call it, if he please, *equilaterum* or *trapezium*, or any thing else, the properties of, and demonstrations about that idea, will be the same, as if he called it a rectangular triangle. I confess, the change of the name, by the impropriety of speech, will at first disturb him, who knows not what idea it stands for: but as soon as the figure is drawn, the consequences and demonstration are plain and clear. Just the same is it in moral knowledge, let a man have the idea of taking from others, without their consent, what their honest industry has possessed them of, and

call this justice, if he please. He that takes the name here without the idea put to it, will be mistaken, by joining another idea of his own to that name: but strip the idea of that name, or take it such as it is in the speaker's mind, and the same things will agree to it, as if you called it injustice. Indeed, wrong names in moral discourses, breed usually more disorder, because they are not so easily rectified as in mathematics, where the figure once drawn and seen, makes the name useless and of no force. For what need of a sign, when the thing signified is present and in view? But in moral names, that cannot be so easily and shortly done, because of the many decompositions that go to the making up the complex ideas of those modes. But yet for all this, miscalling of any of those ideas, contrary to the usual signification of the words of that language, hinders not but that we may have certain and demonstrative knowledge of their several agreements and disagreements, if we will carefully, as in mathematics, keep to the same precise ideas, and trace them in their several relations one to another, without being led away by their names. If we but separate the idea under consideration from the sign that stands for it, our knowledge goes equally on in the discovery of real truth and certainty, whatever sounds we make use of.

§ 10. One thing more we are to take notice of, that where GOD, or any other law-maker, hath defined any moral names, there they have made the essence of that species to which that name belongs; and there it is not safe to apply or use them otherwise; but in other cases it is bare impropriety of speech to apply them contrary to the common usage of the country. But yet even

this too disturbs not the certainty of that knowledge, which is still to be had by a due contemplation and comparing of those even nick-named ideas.

§ 11. *Thirdly*, There is another sort of complex ideas, which being referred to archetypes without us, may differ from them, and so our knowledge about them may come short of being real. Such are our ideas of substances, which consisting of a collection of simple ideas, supposed taken from the works of nature, may yet vary from them, by having more or different ideas united in them, than are to be found united in the things themselves: from whence it comes to pass, that they may, and often do fail of being exactly conformable to things themselves.

§ 12. I say then, that to have ideas of substances, which, by being conformable to things, may afford us real knowledge, it is not enough, as in modes, to put together such ideas as have no inconsistency, though they did never before so exist. *V. g.* the ideas of *sacrilege* or *perjury*, &c. were as real and true ideas before, as after the existence of any such fact. But our ideas of substances being supposed copies, and referred to archetypes without us, must still be taken from something that does or has existed; they must not consist of ideas put together at the pleasure of our thoughts, without any real pattern they were taken from, though we can perceive no inconsistency in such a combination. The reason whereof is, because we knowing not what real constitution it is of substances, whereon our simple ideas depend, and which really is the case of the strict union of some of them one with another, and the exclusion of others; there are very few of them,

that we can be sure are, or are not inconsistent in nature, any farther than experience and sensible observation reach. Herein therefore is founded the reality of our knowledge concerning substances, that all our complex ideas of them must be such, and such only, as are made up of such simples ones as have been discovered to co-exist in nature. And our ideas being thus true, though not, perhaps, very exact copies, are yet the subjects of real (as far as we have any) knowledge of them. Which (as has been already shewn) will not be found to reach very far: but so far as it does, it will still be real knowledge. Whatever ideas we have, the agreement we find they have with others, will still be knowledge. If those ideas be abstract, it will be general knowledge. But to make it real concerning substances, the ideas must be taken from the real existence of things. Whatever simple ideas have been found to co-exist in any substance, these we may with confidence join together again, and so make abstract ideas of substances. For whatever have once had an union in nature, may be united again.

§ 13. This, if we rightly consider, and confine not our thoughts and abstract ideas to names, as if there were, or could be no other sorts of things, than what known names had already determined, and as it were set out, we should think of things with greater freedom and less confusion, than perhaps we do. It would possibly be thought a bold paradox, if not a very dangerous falsehood, if I should say, that some changelings, who have lived forty years together, without any appearance of reason, are something between a man and a beast: which prejudice is founded upon nothing else but a false supposition, that these two

names, *man* and *beast*, stand for distinct species so set out by real essences, that there can come no other species between them : whereas if we will abstract from those names, and the supposition of such specific essences made by nature, wherein all things of the same denominations did exactly and equally partake ; if we would not fancy that there were a certain number of these essences, wherein all things, as in moulds, were cast and formed, we should find that the idea of the shape, motion, and life of a man, without reason, is as much a distinct idea, and makes as much a distinct sort of things from man and beast, as the idea of the shape of an ass with reason, would be different from either that of man or beast, and be a species of an animal between, or distinct from both.

§ 14. Here every body will be ready to ask, If changelings may be supposed something between man and beast ; pray what are they ? I answer, changelings, which is as good a word to signify something different from the signification of *man* or *beast*, as the names man and beast are to have significations different one from the other. This, well considered, would resolve this matter, and shew my meaning without any more ado. But I am not so unacquainted with the zeal of some men, which enables them to spin consequences, and to see religion threatened, whenever any one ventures to quit their forms of speaking, as not to foresee what names such a proposition as this is like to be charged with : and without doubt it will be asked, If changelings are something between man and beast, what will become of them in the other world ? To which I answer, 1. It concerns me not to know or inquire. To their

own Master they stand or fall. It will make their state neither better nor worse, whether we determine any thing of it, or no. They are in the hands of a faithful Creator, and a bountiful Father, who disposes not of his creatures according to our narrow thoughts or opinions, nor distinguishes them according to names and species of our contrivance. And we that know so little of this present world we are in, may, I think, content ourselves without being peremptory in defining the different states, which creatures shall come into when they go off this stage. It may suffice us, that he hath made known to all those, who are capable of instruction, discoursing, and reasoning, that they shall come to an account, and receive according to what they have done in this body.

§ 15. But, *secondly*, I answer, the force of these mens question, (*viz.* will you deprive changelings of a future state?) is founded on one of these two suppositions, which are both false. The first is, that all things that have the outward shape and appearance of a man, must necessarily be designed to an immortal future being after this life. Or, *secondly*, that whatever is of human birth, must be so. 'Take away these imaginations, and such questions will be groundless and ridiculous. I desire then those, who think there is no more but an accidental difference between themselves and changelings, the essence in both being exactly the same, to consider, whether they can imagine immortality annexed to any outward shape of the body? The very proposing it, is, I suppose, enough to make them disown it. No one yet, that ever I heard of, how much soever immersed in matter, allowed that excellency to any figure

of the gross sensible outward parts, as to affirm eternal life due to it, or a necessary consequence of it; or that any mass of matter should, after its dissolution here, be again restored hereafter to an everlasting state of sense, perception, and knowledge, only because it was moulded into this or that figure, and had such a particular frame of its visible parts. Such an opinion as this, placing immortality in a certain superficial figure, turns out of doors all consideration of soul or spirit, upon whose account alone some corporeal beings have hitherto been concluded immortal, and others not. This is to attribute more to the outside than inside of things, and to place the excellency of a man more in the external shape of his body, than internal perfections of his soul; which is but little better than to annex the great and inestimable advantage of immortality and life everlasting, which he has above other material beings, to annex it, I say, to the cut of his beard, or the fashion of his coat. For this or that outward make of our bodies, no more carries with it the hopes of an eternal duration, than the fashion of a man's suit gives him reasonable grounds to imagine it will never wear out, or that it will make him immortal. It will perhaps be said, that nobody thinks that the shape makes any thing immortal, but it is the shape is the sign of a rational soul within, which is immortal. I wonder who made it the sign of any such thing: for barely saying it, will not make it so. It would require some proofs to persuade one of it. No figure that I know speaks any such language. For it may as rationally be concluded, that the dead body of a man, wherein there is to be found no more appearance or action of life than there is in a statue,

has yet nevertheless a living soul in it, because of its shape; as that there is a rational soul in a changeling, because he has the outside of a rational creature, when his actions carry far less marks of reason with them, in the whole course of his life, than what are to be found in many a beast.

§ 16. But it is the issue of rational parents, and must therefore be concluded to have a rational soul. I know not by what logic you must so conclude. I am sure this is a conclusion that men no-where allow of. For if they did, they would not make bold, as every-where they do, to destroy ill-formed and mis-shaped productions. Ay, but these are monsters. Let them be so; what will your driveling, unintelligent, intractable changeling be? Shall a defect in the body make a monster; a defect in the mind, (the far more noble, and, in the common phrase, the far more essential part) not? Shall the want of a nose, or a neck, make a monster, and put such issue out of the rank of men; the want of reason and understanding, not? This is to bring all back again to what was exploded just now: this is to place all in the shape, and to take the measure of a man only by his outside. To shew that, according to the ordinary way of reasoning in this matter, people do lay the whole stress on the figure, and resolve the whole essence of the species of man (as they make it) into the outward shape, how unreasonable soever it be, and how much soever they disown it, we need but trace their thoughts and practice a little farther, and then it will plainly appear. The well-shaped changeling is a man, has a rational soul, though it appear not; this is past doubt, say you. Make the ears a little longer, and more pointed, and the nose a little flatter than

ordinary, and then you begin to boggle: make the face yet narrower, flatter, and longer, and then you are at a stand: add still more and more of the likeness of a brute to it, and let the head be perfectly that of some other animal, then presently it is a monster; and it is demonstration with you that it hath no rational soul, and must be destroyed. Where now, I ask, shall be the just measure of the utmost bounds of that shape, that carries with it a rational soul? For since there have been human *fœtuses* produced, half beast and half man; and others three parts one, and one part the other; and so it is possible they may be in all the variety of approaches to the one or the other shape, and may have several degrees of mixture of the likeness of a man or a brute, I would gladly know what are those precise lineaments, which, according to this hypothesis, are, or are not capable of a rational soul to be joined to them. What sort of outside is the certain sign that there is, or is not such an inhabitant within? For till that be done, we talk at random of man: and shall always, I fear, do so, as long as we give ourselves up to certain sounds, and the imaginations of settled and fixed species in nature, we know not what. But after all, I desire it may be considered, that those who think they have answered the difficulty, by telling us, that a misshaped *fœtus* is a *monster*, run into the same fault they are arguing against, by constituting a species between man and beast. For what else, I pray, is their monster in the case, (if the word monster signifies any thing at all), but something neither man nor beast, but partaking somewhat of either: and just so is the changeling before mentioned. So necessary is it to quit the common notion of

species and essences, if we will truly look into the nature of things, and examine them, by what our faculties can discover in them as they exist, and not by groundless fancies, that have been taken up about them.

§ 17. I have mentioned this here, because I think we cannot be too cautious that *words* and *species*, in the ordinary notions which we have been used to of them, impose not on us. For I am apt to think, therein lies one great obstacle to our clear and distinct knowledge, especially in reference to substances; and from thence has rose a great part of the difficulties about truth and certainty. Would we accustom ourselves to separate our contemplations and reasonings from words, we might, in a great measure, remedy this inconvenience within our own thoughts. But yet it would still disturb us in our discourse with others, as long as we retained the opinion, that species and their essences were any thing else but our abstract ideas, (such as they are) with names annexed to them, to be the signs of them.

§ 18. Where-ever we perceive the agreement or disagreement of any of our ideas, there is certain knowledge: and where-ever we are sure those ideas agree with the reality of things, there is certain real knowledge. Of which agreement of our ideas with the reality of things, having here given the marks, I think I have shewn wherein it is, that *certainly*, *real certainty*, consists. Which whatever it was to others, was, I confess, to me heretofore, one of those *desiderata* which I found great want of.

CHAP. V.

Of TRUTH in general.

§ 1. *What truth is.* § 2. *A right joining or separating of signs; i. e. ideas or words.* § 3. *Which make mental or verbal propositions.* § 4. *Mental propositions are very hard to be treated of.* § 5. *Being nothing but the joining or separating ideas without words.* § 6. *When mental propositions contain real truth, and when verbal.* § 7. *Objection against verbal truth, that thus it may all be chimerical.* § 8. *Answered, Real truth is about ideas agreeing to things.* § 9. *Falseness is the joining of names otherwise than their ideas agree.* § 10. *General propositions to be treated of more at large.* § 11. *Moral and metaphysical truth.*

§ 1. **W**HAT is TRUTH, was an inquiry many ages since; and it being that which all mankind either do, or pretend to search after, it cannot but be worth our while carefully to examine wherein it consists; and so acquaint ourselves with the nature of it, as to observe how the mind distinguishes it from falsehood.

§ 2. Truth then seems to me, in the proper import of the word, to signify nothing but the joining or separating of signs, as the things signified by them, do agree or disagree one with another. The joining or separating of signs here meant, is what by another name we call *proposition*. So that truth properly belongs only to pro-

positions : whereof there are two sorts, *viz.* mental and verbal ; as there are two sorts of signs commonly made use of, *viz.* ideas and words.

§ 3. To form a clear notion of truth, it is very necessary to consider truth of thought and truth of words, distinctly one from another : but yet it is very difficult to treat of them afunder : because it is unavoidable, in treating of mental propositions, to make use of words : and then the instances given of mental propositions, cease immediately to be barely mental, and become verbal. For a mental proposition being nothing but a bare consideration of the ideas, as they are in our minds stripped of names, they lose the nature of purely mental propositions, as soon as they are put into words.

§ 4. And that which makes it yet harder to treat of mental and verbal propositions separately, is, that most men, if not all, in their thinking and reasonings within themselves, make use of words instead of ideas, at least when the subject of their meditation contains in it complex ideas. Which is a great evidence of the imperfection and uncertainty of our ideas of that kind, and may, if attentively made use of, serve for a mark to shew us, what are those things we have clear and perfect established ideas of, and what not. For if we will curiously observe the way our mind takes in thinking and reasoning, we shall find, I suppose, that when we make any propositions within our own thoughts, about white or black, sweet or bitter, a triangle or a circle, we can and often do frame in our minds the ideas themselves, without reflecting on the names. But when we would consider, or make propositions about the more complex ideas, as of a man, vitriol, forti-

tude, glory, we usually put the name for the idea: because the ideas these names stand for, being for the most part imperfect, confused, and undetermined, we reflect on the names themselves, because they are more clear, certain, and distinct, and readier to occur to our thoughts than the pure ideas; and so we make use of these words instead of the ideas themselves, even when we would meditate and reason within ourselves, and make tacit mental propositions. In substances, as has been already noticed, this is occasioned by the imperfection of our ideas; we making the name stand for the real essence, of which we have no idea at all. In modes, it is occasioned by the great number of simple ideas, that go to the making them up. For many of them being compounded, the name occurs much easier than the complex idea itself, which requires time and attention to be recollected, and exactly represented to the mind, even in those men who have formerly been at the pains to do it; and is utterly impossible to be done by those, who though they have ready in their memory the greatest part of the common words of that language, yet perhaps never troubled themselves in all their lives to consider what precise ideas the most of them stood for. Some confused or obscure notions have served their turns; and many who talk very much of religion and conscience, of church and faith, of power and right, of obstructions and humours, melancholy and choler, would perhaps have little left in their thoughts and meditations, if one should desire them to think only of the things themselves, and lay by those words, with which they so often confound others, and not seldom themselves also.

§ 5. But to return to the consideration of truth.

We must, I say, observe two sorts of propositions, that we are capable of making.

1. *Mental*, wherein the ideas in our understandings are without the use of words put together or separated by the mind, perceiving or judging of their agreement or disagreement.

2. *Verbal propositions*, which are words, the signs of our ideas put together or separated in affirmative or negative sentences. By which way of affirming or denying, these signs made by sounds, are, as it were, put together or separated one from another. So that propositions consist in joining or separating signs, and truth consists in the putting together or separating those signs, according as the things which they stand for agree or disagree.

§ 6. Every one's experience will satisfy him, that the mind, either by perceiving or supposing the agreement or disagreement of any of its ideas, does tacitly within itself put them into a kind of proposition affirmative or negative, which I have endeavoured to express by the terms *putting together* and *separating*. But this action of the mind, which is so familiar to every thinking and reasoning man, is easier to be conceived, by reflecting on what passes in us when we affirm or deny, than to be explained by words. When a man has in his head the idea of two lines, *viz.* the side and diagonal of a square, whereof the diagonal is an inch long, he may have the idea also of the division of that line into a certain number of equal parts; *v. g.* into five, ten, an hundred, a thousand, or any other number, and may have the idea of that inch-line, being divisible or not divisible, into such equal parts, as a certain number of them will be equal to the side-line. Now,

whenever he perceives, believes, or supposes such a kind of divisibility to agree or disagree to his idea of that line, he, as it were, joins or separates those two ideas, *viz.* the idea of that line, and the idea of that kind of divisibility, and so makes a mental proposition, which is true or false, according as such a kind of divisibility, a divisibility into such aliquot parts, does really agree to that line or no. When ideas are so put together, or separated in the mind, as they, or the things they stand for, do agree or not, that is, as I may call it, *mental truth*. But *truth of words* is something more, and that is the affirming or denying of words one of another, as the ideas they stand for agree or disagree: and this again is twofold; either *purely verbal* and trifling, (which I shall speak of, chap. viii.), or *real* and instructive; which is the object of that real knowledge which we have spoken of already.

§ 7. But here again will be apt to occur the same doubt about truth, that did about knowledge: and it will be objected, that if truth be nothing but the joining or separating of words in propositions, as the ideas they stand for agree or disagree in mens minds, the knowledge of truth is not so valuable a thing as it is taken to be, nor worth the pains and time men employ to the search of it; since, by this account, it amounts to no more than the conformity of words to the chimeras of mens brains. Who knows not what odd notions many mens heads are filled with, and what strange ideas all mens brains are capable of? But if we rest here, we know the truth of nothing by this rule, but of the visionary world in our own imaginations; nor have other truth, but what as much concerns harpies and centaurs, as

men and horses. For those, and the like, may be ideas in our heads, and have their agreement and disagreement there, as well as the ideas of real beings, and so have as true propositions made about them. And it will be altogether as true a proposition to say, *all centaurs are animals*, as, that *all men are animals*, and the certainty of one as great as the other. For in both the propositions, the words are put together according to the agreement of the ideas in our minds: and the agreement of the idea of *animal* with that of *centaur*, is as clear and visible to the mind as the agreement of the idea of *animal* with that of *man*; and so these two propositions are equally true, equally certain. But of what use is all such truth to us?

§ 8. Though what has been said in the foregoing chapter, to distinguish real from imaginary knowledge, might suffice here, in answer to this doubt, to distinguish real truth from chimerical, or, if you please, barely nominal, they depending both on the same foundation; yet it may not be amiss here again to consider, that though our words signify nothing but our ideas, yet being designed by them to signify things, the truth they contain, when put into propositions, will be only verbal, when they stand for ideas in the mind, that have not an agreement with the reality of things. And therefore truth, as well as knowledge, may well come under the distinction of *verbal* and *real*; that being only verbal truth, wherein terms are joined according to the agreement or disagreement of the ideas they stand for, without regarding whether our ideas are such as really have, or are capable of having an existence in nature. But then it is they contain real truth, when these signs are joined, as our ideas agree; and when

our ideas are such as we know are capable of having an existence in nature ; which in substances we cannot know, but by knowing that such have existed.

§ 9. Truth is the marking down in words, the agreement or disagreement of ideas as it is. Falsehood is the marking down in words, the agreement or disagreement of ideas otherwise than it is. And so far as these ideas thus marked by sounds, agree to their archetypes, so far only is the truth real. The knowledge of this truth consists in knowing what ideas the words stand for, and the perception of the agreement or disagreement of those ideas, according as it is marked by those words.

§ 10. But because words are looked on as the great conduits of truth and knowledge, and that in conveying and receiving of truth, and commonly in reasoning about it, we make use of words and propositions, I shall more at large inquire, wherein the certainty of real truths, contained in propositions, consists, and where it is to be had ; and endeavour to shew in what sort of universal propositions we are capable of being certain of their real truth or falsehood.

I shall begin with general propositions, as those which most employ our thoughts, and exercise our contemplation. General truths are most looked after by the mind, as those that most enlarge our knowledge ; and by their comprehensiveness, satisfying us at once of many particulars, enlarge our view, and shorten our way to knowledge.

§ 11. Besides truth taken in the strict sense before mentioned, there are other sorts of truths ; as, 1. *Moral truth*, which is speaking of things ac-

according to the persuasion of our own minds, though the proposition we speak agree not to the reality of things. 2. *Metaphysical truth*, which is nothing but the real existence of things, conformable to the ideas to which we have annexed their names. This, though it seems to consist in the very beings of things, yet when considered a little nearly, will appear to include a tacit proposition, whereby the mind joins that particular thing to the idea it had before settled, with a name to it. But these considerations of truth, either having been before taken notice of, or not being much to our present purpose, it may suffice here only to have mentioned them.

CHAP. VI.

Of UNIVERSAL PROPOSITIONS, their Truth and Certainty.

§ 1. *Treating of words necessary to knowledge.*
 § 2. *General truths hardly to be understood, but in verbal propositions.* § 3. *Certainty twofold, of truth and of knowledge.* § 4. *No proposition can be known to be true, where the essence of each species mentioned is not known.* § 5. *This more particularly concerns substances.* § 6. *The truth of few universal propositions concerning substances, is to be known.* § 7. *Because co-existence of ideas in few cases is to be known.* § 8, 9. *Instance in gold.* § 10. *As far as any such co-existence can be known, so far universal propositions may be certain. But this will go but a little way, because,* § 11, 12. *The qualities which make our complex ideas of substances depend mostly on external, remote, and unperceived causes.* § 13. *Judgment may reach farther, but that is not knowledge.* § 14. *What is requisite for our knowledge of substances.* § 15. *Whilst our ideas of substances contain not their real constitutions, we can make but few general certain propositions concerning them.* § 16. *Wherein lies the general certainty of propositions.*

§ 1. **T**HOUGH the examining and judging of ideas by themselves, their names being quite laid aside, be the best and surest way to clear and distinct knowledge; yet through the prevail-

ing custom of using sounds for ideas, I think it is very seldom practised. Every one may observe how common it is for names to be made use of, instead of the ideas themselves, even when men think and reason within their own breasts; especially if the ideas be very complex, and made up of a great collection of simple ones. This makes the consideration of words and propositions so necessary a part of the treatise of knowledge, that it is very hard to speak intelligibly of the one without explaining the other.

§ 2. All the knowledge we have being only of particular or general truths, it is evident, that whatever may be done in the former of these, the latter, which is that which, with reason, is most fought after, can never be well made known, and is very seldom apprehended, but as conceived and expressed in words. It is not therefore out of our way, in the examination of our knowledge, to inquire into the truth and certainty of universal propositions.

§ 3. But that we may not be misled in this case by that which is the danger every-where, I mean by the doubtfulness of terms, it is fit to observe, that certainty is twofold: certainty of *truth*, and certainty of *knowledge*. Certainty of truth is, when words are so put together in propositions, as exactly to express the agreement or disagreement of the ideas they stand for, as really it is. Certainty of knowledge is, to perceive the agreement or disagreement of ideas, as expressed in any proposition. This we usually call knowing, or being certain of the truth of any proposition.

§ 4. Now because we cannot be certain of the truth of any general proposition, unless we know the precise bounds and extent of the species its

terms stand for, it is necessary we should know the essence of each species, which is that which constitutes and bounds it. This, in all simple ideas and modes, is not hard to do. For in these the real and nominal essence being the same, or which is all one, the abstract idea, which the general term stands for, being the sole essence and boundary that is or can be supposed, of the species, there can be no doubt, how far the species extends, or what things are comprehended under each term; which it is evident are all that have an exact conformity with the idea it stands for, and no other. But in substances, wherein a real essence, distinct from the nominal, is supposed to constitute, determine, and bound the species, the extent of the general word is very uncertain: because, not knowing this real essence, we cannot know what is, or what is not of that species, and consequently what may, or may not with certainty be affirmed of it. And thus speaking of a *man*, or *gold*, or any other species of natural substances, as supposed constituted by a precise real essence, which nature regularly imparts to every individual of that kind, whereby it is made to be of that species, we cannot be certain of the truth of any affirmation or negation made of it. For *man* or *gold*, taken in this sense, and used for species of things, constituted by real essences, different from the complex idea in the mind of the speaker, stand for we know not what, and the extent of these species, with such boundaries, are so unknown and undetermined, that it is impossible, with any certainty, to affirm, that all men are rational, or that all gold is yellow. But where the nominal essence is kept to as the boundary of each species, and men extend the application of any general

term no farther than to the particular things in which the complex idea it stands for is to be found, there they are in no danger to mistake the bounds of each species, nor can be in doubt, on this account, whether any propositions be true, or no. I have chose to explain this uncertainty of propositions in this scholastic way, and have made use of the terms of *essences* and *species*, on purpose to shew the absurdity and inconvenience there is to think of them, as of any other sort of realities, than barely abstract ideas with names to them. To suppose, that the species of things are any thing but the sorting of them under general names, according as they agree to several abstract ideas, of which we make those names the signs, is to confound truth, and introduce uncertainty into all general propositions that can be made about them. Though therefore these things might, to people not possessed with scholastic learning, be perhaps treated of in a better and clearer way; yet those wrong notions of essences or species, having got root in most peoples minds, who have received any tincture from the learning which has prevailed in this part of the world, are to be discovered and removed, to make way for that use of words which should convey certainty with it.

§ 5. The names of substances then, whenever made to stand for species, which are supposed to be constituted by real essences which we know not, are not capable to convey certainty to the understanding: of the truth of general propositions, made up of such terms, we cannot be sure. The reason whereof is plain. For how can we be sure that this or that quality is in gold, when we know not what is or is not gold. Since in this way of speaking nothing is gold, but

what partakes of an essence, which we not knowing, cannot know where it is, or is not, and so cannot be sure that any parcel of matter in the world is or is not in this sense gold; being incurably ignorant, whether it has or has not that which makes any thing to be called gold, *i. e.* that real essence of gold whereof we have no idea at all. This being as impossible for us to know, as it is for a blind man to tell in what flower the colour of a pansie is, or is not to be found, whilst he has no idea of the colour of a pansie at all. Or if we could, which is impossible, certainly know where a real essence, which we know not, is; *v. g.* in what parcels of matter the real essence of gold is; yet could we not be sure that this or that quality could with truth be affirmed of gold; since it is impossible for us to know, that this or that quality or idea has a necessary connection with a real essence, of which we have no idea at all, whatever species that supposed real essence may be imagined to constitute.

§ 6. On the other side, the names of substances, when made use of as they should be, for the ideas men have in their minds, though they carry a clear and determinate signification with them, will not yet serve us to make any universal propositions, of whose truth we can be certain. Not because in this use of them we are uncertain what things are signified by them, but because the complex ideas they stand for, are such combinations of simple ones, as carry not with them any discoverable connection or repugnancy, but with a very few other ideas.

§ 7. The complex ideas, that our names of the species of substances properly stand for, are col-

lections of such qualities as have been observed to co-exist in an unknown *substratum*, which we call *substance*; but what other qualities necessarily co-exist with such combinations, we cannot certainly know, unless we can discover their natural dependence; which, in their primary qualities, we can go but a very little way in; and in all their secondary qualities we can discover no connection at all, for the reasons mentioned †, viz. 1. Because we know not the real constitutions of substances, on which each secondary quality particularly depends. 2. Did we know that, it would serve us only for experimental (not universal) knowledge; and reach with certainty no farther than that bare instance: because our understandings can discover no conceivable connection between any secondary quality, and any modification whatsoever of any of the primary ones. And therefore there are very few general propositions to be made concerning substances, which can carry with them undoubted certainty.

§ 8. *All gold is fixed*, is a proposition whose truth we cannot be certain of, how universally soever it be believed. For if, according to the useless imagination of the schools, any one supposes the term *gold* to stand for a species of things set out by nature, by a real essence belonging to it, it is evident he knows not what particular substances are of that species; and so cannot, with certainty, affirm any thing universally of gold. But if he makes gold stand for a species, determined by its nominal essence, let the nominal essence, for example, be the complex idea of a *body*, of a certain *yellow* colour, *malleable*, *fusible*, and *heavier* than any other known; in this proper use of the word *gold*, there is no difficulty to know what is, or is not.

† Chap. 3.

gold. But yet no other quality can, with certainty, be universally affirmed or denied of gold, but what hath a discoverable connection or inconsistency with that nominal essence. *Fixedness*, for example, having no necessary connection, that we can discover, with the colour, weight, or any other simple idea of our complex one, or with the whole combination together; it is impossible that we should certainly know the truth of this proposition, that *all gold is fixed*.

§ 9. As there is no discoverable connection between fixedness, and the colour, weight, and other simple ideas of that nominal essence of gold; so if we make our complex idea of *gold*, a *body*, *yellow*, *fusible*, *ductile*, *weighty*, and *fixed*, we shall be at the same uncertainty concerning solubility in *aqua regia*; and for the same reason: since we can never, from consideration of the ideas themselves, with certainty, affirm or deny, of a body, whose complex idea is made up of yellow, very weighty, ductile, fusible, and fixed, that it is soluble in *aqua regia*: and so on of the rest of its qualities. I would gladly meet with one general affirmation, concerning any quality of gold, that any one can certainly know is true. It will, no doubt, be presently objected, Is not this an universal certain proposition, *all gold is malleable*? To which I answer, it is a very certain proposition, if *malleableness* be a part of the complex idea the word *gold* stands for. But then here is nothing affirmed of gold, but that that sound stands for an idea in which *malleableness* is contained: and such a sort of truth and certainty as this, it is to say *a centaur is four-footed*. But if *malleableness* makes not a part of the specific essence the name *gold* stands for, it is plain, *all gold is malleable*, is not

a certain proposition. Because, let the complex idea of gold be made up of which soever of its other qualities you please, malleableness will not appear to depend on that complex idea, nor follow from any simple one contained in it. The connection that malleableness has, if it has any, with those other qualities, being only by the intervention of the real constitution of its insensible parts, which since we know not, it is impossible we should perceive that connection, unless we could discover that which ties them together.

§ 10. The more, indeed, of these co-existing qualities we unite into one complex idea, under one name, the more precise and determinate we make the signification of that word; but never yet make it thereby more capable of universal certainty, in respect of other qualities, not contained in our complex idea; since we perceive not their connection or dependence one on another; being ignorant both of that real constitution in which they are all founded; and also how they flow from it. For the chief part of our knowledge concerning substances, is not, as in other things, barely of the relation of two ideas that may exist separately; but is of the necessary connection and co-existence of several distinct ideas in the same subject, or of their repugnancy so to co-exist. Could we begin at the other end, and discover what it was wherein that colour consisted, what made a body lighter or heavier, what texture of parts made it malleable, fusible, and fixed, and fit to be dissolved in this sort of liquor, and not in another, if, I say, we had such an idea as this of bodies, and could perceive wherein all sensible qualities originally consist, and how they are produced; we might frame such abstract ideas of them, as

would furnish us with matter of more general knowledge, and enable us to make universal propositions, that should carry general truth and certainty with them. But whilst our complex ideas of the sorts of substances are so remote from that internal real constitution, on which their sensible qualities depend, and are made up of nothing but an imperfect collection of those apparent qualities our senses can discover, there can be few general propositions concerning substances, of whose real truth we can be certainly assured; since there are but few simple ideas, of whose connection and necessary co-existence we can have certain and undoubted knowledge. I imagine, amongst all the secondary qualities of substances, and the powers relating to them, there cannot any two be named, whose necessary co-existence, or repugnance to co-exist, can certainly be known, unless in those of the same sense, which necessarily exclude one another, as I have elsewhere shewed. No one, I think, by the colour that is in any body, can certainly know what smell, taste, sound, or tangible qualities it has, nor what alterations it is capable to make or receive, on, or from other bodies. The same may be said of the sound or taste, &c. Our specific names of substances standing for any collections of such ideas, it is not to be wondered, that we can, with them, make very few general propositions of undoubted real certainty. But yet so far as any complex idea, of any sort of substances, contains in it any simple idea, whose necessary co-existence with any other may be discovered, so far universal propositions may with certainty be made concerning it: *v. g.* could any one discover a necessary connection between malleableness, and the colour or weight of

gold, or any other part of the complex idea, signified by that name, he might make a certain universal proposition concerning gold in this respect; and the real truth of this proposition, that *all gold is malleable*, would be as certain as of this, *the three angles of all right-lined triangles, are equal to two right ones.*

§ 11. Had we such ideas of substances, as to know what real constitutions produce those sensible qualities we find in them, and how those qualities flowed from thence, we could, by the specific ideas of their real essences in our own minds, more certainly find out their properties, and discover what qualities they had, or had not, than we can now by our senses: and to know the properties of gold, it would be no more necessary that gold should exist, and that we should make experiments upon it, than it is necessary for the knowing the properties of a triangle, that a triangle should exist in any matter; the idea in our minds would serve for the one as well as the other. But we are so far from being admitted into the secrets of nature, that we scarce so much as ever approach the first entrance towards them. For we are wont to consider the substances we meet with, each of them as an entire thing by itself, having all its qualities in itself, and independent of other things; overlooking, for the most part, the operations of those invisible fluids they are encompassed with; and upon whose motions and operations depend the greatest part of those qualities which are taken notice of in them, and are made by us the inherent marks of distinction, whereby we know and denominate them. Put a piece of gold any-where by itself, separate from the reach and influence of all other bodies, it will

immediatly lose all its colour and weight, and perhaps malleableness too: which, for ought I know, would be changed into a perfect friability. Water, in which to us fluidity is an essential quality, left to itself, would cease to be fluid. But if inanimate bodies owe so much of their present state to other bodies without them, that they would not be what they appear to us, were those bodies that environ them removed, it is yet more so in vegetables, which are nourished, grow, and produce leaves, flowers, and seeds, in a constant succession. And if we look a little nearer into the state of animals, we shall find, that their dependence, as to life, motion, and the most considerable qualities to be observed in them, is so wholly on extrinsecal causes and qualities of other bodies, that make no part of them, that they cannot subsist a moment without them: though yet those bodies on which they depend, are little taken notice of, and make no part of the complex ideas we frame of those animals. Take the air but a minute from the greatest part of living creatures, and they presently lose sense, life, and motion. This the necessity of breathing has forced into our knowledge. But how many other extrinsecal, and possibly very remote bodies, do the springs of those admirable machines depend on, which are not vulgarly observed, or so much as thought on; and how many are there, which the severest inquiry can never discover? The inhabitants of this spot of the universe, though removed so many millions of miles from the sun, yet depend so much on the duly tempered motion of particles coming from, or agitated by it, that were this earth removed but a small part of that distance out of its present situation, and placed a little far-

ther or nearer that source of heat, it is more than probable, that the greatest part of the animals in it would immediately perish: since we find them so often destroyed by an excess or defect of the sun's warmth, which an accidental position, in some parts of this our little globe, exposes them to. The qualities observed in a loadstone must needs have their source far beyond the confines of that body; and the ravage made often on several sorts of animals, by invisible causes, the certain death, as we are told, of some of them, by barely passing the line, or, as it is certain of others, by being removed into a neighbouring country, evidently shew, that the concurrence and operation of several bodies, with which they are seldom thought to have any thing to do, is absolutely necessary to make them be what they appear to us, and to preserve those qualities, by which we know and distinguish them. We are then quite out of the way, when we think that things contain within themselves the qualities that appear to us in them: and we in vain search for that constitution within the body of a fly, or an elephant, upon which depend those qualities and powers we observe in them. For which, perhaps, to understand them aright, we ought to look, not only beyond this our earth and atmosphere, but even beyond the sun or remotest star our eyes have yet discovered. For how much the being and operation of particular substances in this our globe, depend on causes utterly beyond our view, is impossible for us to determine. We see and perceive some of the motions, and grosser operations of things here about us; but whence the streams come that keep all these curious machines in motion and repair, how conveyed and modified, is

beyond our notice and apprehension; and the great parts and wheels, as I may so say, of this stupendious structure of the universe, may, for ought we know, have such a connection and dependence in their influences and operations one upon another, that, perhaps, things in this our mansion would put on quite another face, and cease to be what they are, if some one of the stars or great bodies incomprehensibly remote from us, should cease to be or move as it does. This is certain, things, however absolute and entire they seem in themselves, are but retainers to other parts of nature, for that which they are most taken notice of by us. Their observable qualities, actions, and powers, are owing to something without them; and there is not so complete and perfect a part, that we know of nature, which does not owe the being it has, and the excellencies of it, to its neighbours; and we must not confine our thoughts within the surface of any body, but look a great deal farther, to comprehend perfectly those qualities that are in it.

§ 12. If this be so, it is not to be wondered, that we have very imperfect ideas of substances; and that the real essences on which depend their properties and operations, are unknown to us. We cannot discover so much as that size, figure, and texture of their minute and active parts, which is really in them; much less the different motions and impulses made in and upon them by bodies from without, upon which depends, and by which is formed the greatest and most remarkable part of those qualities we observe in them, and of which our complex ideas of them are made up. This consideration alone is enough to put an end to all our hopes of ever having the ideas of their real essences; which, whilst we want, the nomi-

nal essences, we make use of instead of them, will be able to furnish us but very sparingly with any general knowledge, or universal propositions capable of real certainty.

§ 13. We are not therefore to wonder, if certainty be to be found in very few general propositions made concerning substances: our knowledge of their qualities and properties go very seldom farther than our senses reach and inform us. Possibly inquisitive and observing men may, by strength of judgment, penetrate farther, and on probabilities taken from wary observation, and hints well laid together, often guess right at what experience has not yet discovered to them. But this is but guessing still; it amounts only to opinion, and has not that certainty which is requisite to knowledge. For all general knowledge lies only in our own thoughts, and consists barely in the contemplation of our own abstract ideas. Where-ever we perceive any agreement or disagreement amongst them, there we have general knowledge; and by putting the names of those ideas together accordingly in propositions, can with certainty pronounce general truths. But because the abstract ideas of substances, for which their specific names stand, whenever they have any distinct and determined signification, have a discoverable connection or inconsistency with but a very few other ideas, the certainty of universal propositions concerning substances is very narrow and scanty in that part, which is our principal inquiry concerning them; and there is scarce any of the names of substances, let the idea it is applied to be what it will, of which we can generally, and with certainty pronounce, that it has or has not this or that other quality belonging to it, and constantly

co-existing or inconsistent with that idea, wherever it is to be found.

§ 14. Before we can have any tolerable knowledge of this kind, we must first know what changes the primary qualities of one body do regularly produce in the primary qualities of another, and how. Secondly, we must know what primary qualities of any body produce certain sensations or ideas in us. This is in truth no less than to know all the effects of matter, under its divers modifications of bulk, figure, cohesion of parts, motion, and rest. Which, I think, every body will allow is utterly impossible to be known by us without revelation. Nor if it were revealed to us, what sort of figure, bulk, and motion of corpuscles, would produce in us the sensation of a yellow colour, and what sort of figure, bulk, and texture of parts in the superficies of any body, were fit to give such corpuscles their due motion to produce that colour; would that be enough to make universal propositions with certainty, concerning the several sorts of them, unless we had faculties acute enough to perceive the precise bulk, figure, texture, and motion of bodies in those minute parts, by which they operate on our senses, that so we might by those frame our abstract ideas of them. I have mentioned here only corporeal substances, whose operations seem to lie more level to our understandings: for as to the operations of spirits, both their thinking and moving of bodies, we at first sight find ourselves at a loss; though perhaps, when we have applied our thoughts a little nearer to the consideration of bodies, and their operations, and examined how far our notions, even in these, reach, with any clearness, beyond sensible

matter of fact, we shall be bound to confess, that even in those too, our discoveries amount to very little beyond perfect ignorance and incapacity.

§ 15. This is evident, the abstract complex ideas of substances, for which their general names stand, not comprehending their real constitutions, can afford us very little universal certainty. Because our ideas of them are not made up of that, on which those qualities we observe in them, and would inform ourselves about, do depend, or with which they have any certain connection. *V. g.* let the idea to which we give the name *man*, be, as it commonly is, a body of the ordinary shape, with sense, voluntary motion, and reason joined to it. This being the abstract idea, and consequently the essence of our species *man*, we can make but very few general certain propositions concerning man, standing for such an idea. Because not knowing the real constitution on which sensation, power of motion, and reasoning, with that peculiar shape, depend, and whereby they are united together in the same subject, there are very few other qualities, with which we can perceive them to have a necessary connection; and therefore we cannot with certainty affirm, that *all men sleep by intervals*; that *no man can be nourished by wood or stones*; that *all men will be poisoned by hemlock*: because these ideas have no connection nor repugnancy with this our nominal essence of *man*, with this abstract idea that name stands for. We must in these and the like appeal to trial in particular subjects, which can reach but a little way. We must content ourselves with probability in the rest; but can have no general certainty, whilst our specific idea of man contains not that real constitution, which is the root where-

in all his inseparable qualities are united, and from whence they flow. Whilst our idea the word *man* stands for, is only an imperfect collection of some sensible qualities and powers in him, there is no discernible connection or repugnance between our specific idea, and the operation of either the parts of hemlock or stones, upon his constitution. There are animals that safely eat hemlock, and others that are nourished by wood and stones: but as long as we want ideas of those real constitutions of different sorts of animals, whereon these, and the like qualities and powers depend, we must not hope to reach certainty in universal propositions concerning them. Those few ideas only, which have a discernible connection with our nominal essence, or any part of it, can afford us such propositions. But these are so few, and of so little moment, that we may justly look on our certain general knowledge of substances, as almost none at all.

§ 16. To conclude; general propositions, of what kind soever, are then only capable of certainty, when the terms used in them stand for such ideas, whose agreement or disagreement, as there expressed, is capable to be discovered by us. And we are then certain of their truth or falsehood, when we perceive the ideas the terms stand for, to agree or not agree, according as they are affirmed or denied one of another. Whence we may take notice, that general certainty is never to be found but in our ideas. Whenever we go to seek it elsewhere in experiment or observations without us, our knowledge goes not beyond particulars. It is the contemplation of our own abstract ideas, that alone is able to afford us general knowledge.

C H A P. VII.

Of MAXIMS.

§ 1. *They are self-evident.* § 2. *Wherein that self-evidence consists.* § 3. *Self-evidence not peculiar to received axioms.* § 4. *First, As to identity and diversity, all propositions are equally self-evident.* § 5. *Secondly, In co-existence we have few self-evident propositions.* § 6. *Thirdly, In other relations we may have.* § 7. *Fourthly, Concerning real existence, we have none.* § 8. *These axioms do not much influence our other knowledge.* § 9. *Because they are not the truths the first known.* § 10. *Because on them the other parts of our knowledge do not depend.* § 11. *What use these general maxims have.* § 12. *Maxims, if care be not taken in the use of words, may prove contradictions.* § 13. *Instance in vacuum.* § 14. *They prove not the existence of things without us.* § 15. *Their application dangerous about complex ideas.* § 16—18. *Instance in man.* § 19. *Little use of these maxims in proofs where we have clear and distinct ideas.* § 20. *Their use dangerous where our ideas are confused.*

§ 1. **T**HERE are a sort of propositions, which, under the name of MAXIMS and AXIOMS, have passed for principles of science; and because they are self-evident, have been supposed innate, although no-body, that I know, ever went about to shew the reason and foundation of their clearness or cogency. It may however be

worth while to inquire into the reason of their evidence, and see whether it be peculiar to them alone, and also examine how far they influence and govern our other knowledge.

§ 2. *Knowledge*, as has been shewn, consists in the perception of the agreement or disagreement of ideas: now, where that agreement or disagreement is perceived immediately by itself, without the intervention or help of any other, there our knowledge is self-evident. This will appear to be so to any one, who will but consider any of those propositions, which, without any proof, he assents to at first sight? for in all of them he will find, that the reason of his assent is from that agreement or disagreement, which the mind, by an immediate comparing them, finds in those ideas answering the affirmation or negation in the proposition.

§ 3. This being so, in the next place let us consider, whether this self-evidence be peculiar only to those propositions which commonly pass under the name of maxims, and have the dignity of axioms allowed them. And here it is plain, that several other truths, not allowed to be axioms, partake equally with them in this self-evidence. This we shall see, if we go over these several sorts of agreement or disagreement of ideas, which I have above mentioned, *viz.* identity, relation, co-existence, and real existence; which will discover to us, that not only those few propositions, which have had the credit of maxims, are self-evident, but a great many, even almost an infinite number of other propositions are such.

§ 4. For, first, the immediate perception of the agreement or disagreement of identity, being founded in the mind's having distinct ideas, this

affords us as many self-evident propositions, as we have distinct ideas. Every one that has any knowledge at all, has, as the foundation of it, various and distinct ideas : and it is the first act of the mind (without which, it can never be capable of any knowledge) to know every one of its ideas by itself, and distinguish it from others. Every one finds in himself, that he knows the ideas he has ; that he knows also when any one is in his understanding, and what it is ; and that when more than one are there, he knows them distinctly and unconfusedly one from another. Which always being so, (it being impossible but that he should perceive what he perceives), he can never be in doubt when any idea is in his mind, that it is there, and is that idea it is ; and that two distinct ideas, when they are in his mind, are there, and are not one and the same idea. So that all such affirmations and negations, are made without any possibility of doubt, uncertainty, or hesitation, and must necessarily be assented to as soon as understood ; that is, as soon as we have in our minds determined ideas, which the terms in the proposition stand for. And therefore where-ever the mind with attention considers any proposition, so as to perceive the two ideas, signified by the terms, and affirmed or denied one of the other, to be the same or different, it is presently and infallibly certain of the truth of such a proposition, and this equally, whether these propositions be in terms standing for more general ideas, or such as are less so, *v. g.* whether the general idea of *being* be affirmed of itself, as in this proposition, *Whatsoever is, is ;* or a more particular idea be affirmed of itself, as *a man is a man*, or, *whatsoever is white is white* : or whether the idea of *being* in

general be denied of *not being*, which is the only, if I may so call it, idea different from it, as in this other proposition, *It is impossible for the same thing to be, and not be* ; or any idea of any particular being be denied of another different from it, as *a man is not a horse ; red is not blue*. The difference of the ideas, as soon as the terms are understood, makes the truth of the proposition presently visible, and that with an equal certainty and easiness in the less, as well as the more general propositions, and all for the same reason, *viz.* because the mind perceives in any ideas, that it has the same idea to be the same with itself ; and two different ideas to be different, and not the same. And this it is equally certain of, whether these ideas be more or less general, abstract, and comprehensive. It is not therefore alone to these two general propositions, *Whatsoever is, is* ; and, *It is impossible for the same thing to be, and not to be*, that this sort of self-evidence belongs by any peculiar right. The perception of being, or not being, belongs no more to these vague ideas, signified by the terms *whatsoever* and *thing*, than it does to any other ideas. These two general maxims amounting to no more, in short, but this, that *the same is the same*, and *same is not different*, are truths known in more particular instances, as well as in those general maxims, and known also in particular instances, before these general maxims are ever thought on, and draw all their force from the discernment of the mind employed about particular ideas. There is nothing more visible, than that the mind, without the help of any proof or reflection on either of these general propositions, perceives so clearly, and knows so certainly, that the idea of *white* is the idea of *white*, and not the

idea of *blue*; and that the idea of *white*, when it is in the mind, is there, and is not absent, that the consideration of these axioms can add nothing to the evidence or certainty of its knowledge. Just so it is (as every one may experiment in himself) in all the ideas a man has in his mind: he knows each to be itself, and not to be another; and to be in his mind, and not away when it is there, with a certainty that cannot be greater; and therefore the truth of no general proposition can be known with a greater certainty, nor add any thing to this. So that, in respect of identity, our intuitive knowledge reaches as far as our ideas. And we are capable of making as many self-evident propositions as we have names for distinct ideas. And I appeal to every one's own mind, whether this proposition, *A circle is a circle*, be not as self-evident a proposition, as that consisting of more general terms, *Whatsoever is, is*: and again, whether this proposition, *Blue is not red*, be not a proposition that the mind can no more doubt of, as soon as it understands the words, than it does of that axiom, *It is impossible for the same thing to be, and not to be*; and so of all the like.

§ 5. Secondly, As to *co-existence*, or such necessary connection between two ideas, that in the subject where one of them is supposed, there the other must necessarily be also; of such agreement or disagreement as this, the mind has an immediate perception but in very few of them; and therefore in this sort we have but very little intuitive knowledge. Nor are there to be found very many propositions that are self-evident, though some there are; v. g. the idea of filling a place equal to the contents of its superficies, being annexed to our idea of *body*, I think it is a self-evi-

dent proposition, *That two bodies cannot be in the same place.*

§ 6. *Thirdly*, As to the *relations* of modes, mathematicians have framed many axioms concerning that one relation of equality. *As equals taken from equals, the remainder will be equals*; which, with the rest of that kind, however they are received for maxims by the mathematicians, and are unquestionable truths; yet, I think, that any one who considers them, will not find that they have a clearer self-evidence than these, that *one and one are equal to two*; that *if you take from the five fingers of one hand two, and from the five fingers of the other hand two, the remaining numbers will be equal*. These, and a thousand other such propositions, may be found in numbers, which, at the very first hearing, force the assent, and carry with them an equal, if not greater clearness, than those mathematical axioms.

§ 7. *Fourthly*, As to *real existence*, since that has no connection with any other of our ideas but that of ourselves, and of a first being, we have in that, concerning the real existence of all other beings, not so much as demonstrative, much less a self-evident knowledge; and therefore concerning those there are no maxims.

§ 8. In the next place, let us consider what *influence* these received maxims have upon the other parts of our knowledge. The rules established in the schools, that all reasonings are *ex præcognitis et præconcessis*, seem to lay the foundation of all other knowledge in these maxims, and to suppose them to be *præcognita*; whereby, I think, are meant these two things: first, that these axioms are those truths that are first known to the

mind. And, secondly, that upon them the other parts of our knowledge depend.

§ 9. *First*, That they are not the *truths first known* to the mind, is evident to experience, as we have shewn in another place †. Who perceives not, that a child certainly knows 'that a stranger is not its mother; that its sucking-bottle is not the rod, long before he knows that *it is impossible for the same thing to be, and not to be?* And how many truths are there about numbers, which it is obvious to observe that the mind is perfectly acquainted with, and fully convinced of, before it ever thought on these general maxims to which mathematicians, in their arguings, do sometimes refer them? Whereof the reason is very plain: for that which makes the mind assent to such propositions, being nothing else but the perception it has of the agreement or disagreement of its ideas, according as it finds them affirmed or denied one of another, in words it understands; and every idea being known to be what it is, and every two distinct ideas being known not to be the same, it must necessarily follow, that such self-evident truths must be first known, which consist of ideas that are first in the mind; and the ideas first in the mind, it is evident, are those of particular things, from whence, by slow degrees, the understanding proceeds to some few general ones; which being taken from the ordinary and familiar objects of sense, are settled in the mind, with general names to them. Thus particular ideas are first received and distinguished, and so knowledge got about them; and next to them, the less general or specific, which are next to particular:

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† Book I. chap. ii.

for abstract ideas are not so obvious or easy to children, or the yet unexercised mind, as particular ones. If they seem so to grown men, it is only because by constant and familiar use they are made so: for when we nicely reflect upon them, we shall find that general ideas are fictions and contrivances of the mind, that carry difficulty with them, and do not so easily offer themselves, as we are apt to imagine. For example, does it not require some pains and skill to form the general idea of a *triangle*, (which is yet none of the most abstract, comprehensive, and difficult), for it must be neither oblique nor rectangle, neither equilateral, equicrural, nor scalenon; but all and none of these at once. In effect, it is something imperfect, that cannot exist; an idea wherein some parts of several different and inconsistent ideas are put together. It is true, the mind, in this imperfect state, has need of such ideas, and makes all the haste to them it can, for the conveniency of communication and enlargement of knowledge; to both which it is naturally very much inclined. But yet one has reason to suspect such ideas are marks of our imperfection; at least this is enough to shew, that the most abstract and general ideas are not those that the mind is first and most easily acquainted with, nor such as its earliest knowledge is conversant with.

§ 10. *Secondly*, From what has been said, it plainly follows, that these magnified maxims are not the principles and foundations of all our other knowledge. For if there be a great many other truths, which have as much self-evidence as they, and a great many that we know before them, it is impossible they should be the principles from which we deduce all other truths. Is it im-

possible to know that *one* and *two* are equal to *three*, but by virtue of this, or some such axiom, viz. *The whole is equal to all its parts taken together?* Many a one knows that *one* and *two* are equal to *three*, without having heard or thought on that, or any other axiom, by which it might be proved; and knows it as certainly as any other man knows, that the *whole is equal to all its parts*, or any other maxim, and all from the same reason of self-evidence; the equality of those ideas being as visible and certain to him without that, or any other axiom, as with it, it needing no proof to make it perceived. Nor after the knowledge, that the *whole is equal to all its parts*, does he know that *one and two are equal to three*, better or more certainly than he did before. For if there be any odds in those ideas, the *whole* and *parts* are more obscure, or at least more difficult to be settled in the mind, than those of *one*, *two*, and *three*. And indeed, I think, I may ask these men, who will needs have all knowledge, besides those general principles themselves, to depend on general, innate, and self-evident principles, what principle is requisite to prove, that *one* and *one* are *two*, that *two* and *two* are *four*, that *three* times *two* are *six*? Which being known without any proof, do evince, that either all knowledge does not depend on certain *præcognita*, or general maxims, called principles, or else that these are principles; and if these are to be counted principles, a great part of numeration will be so. To which if we add all the self-evident propositions which may be made about all our distinct ideas, principles will be almost infinite, at least innumerable, which men arrive to the knowledge of at different ages; and a great many of these innate

principles, they never come to know all their lives. But whether they come in view of the mind earlier or later, this is true of them, that they are all known by their native evidence, are wholly independent, receive no light, nor are capable of any proof one from another; much less the more particular from the more general, or the more simple from the more compounded; the more simple and less abstract, being the most familiar, and the easier and earlier apprehended. But which-ever be the clearest ideas, the evidence and certainty of all such propositions is in this, that a man sees the same idea to be the same idea, and infallibly perceives two different ideas to be different ideas. For when a man has in his understanding the ideas of *one* and of *two*, the idea of *yellow* and the idea of *blue*, he cannot but certainly know, that the idea of one is the idea of one, and not the idea of two; and that the idea of yellow is the idea of yellow, and not the idea of blue. For a man cannot confound the ideas in his mind, which he has distinct: that would be to have them confused and distinct at the same time, which is a contradiction: and to have none distinct, is to have no use of our faculties, to have no knowledge at all. And therefore what idea soever is affirmed of itself, or whatsoever two entire distinct ideas are denied one of another, the mind cannot but assent to such a proposition as infallibly true, as soon as it understands the terms, without hesitation or need of proof, or regarding those made in more general terms, and called maxims.

§ 11. What shall we then say? Are these general maxims of no use? By no means; though perhaps their use is not that which it is commonly taken to be. But since doubting in the least

of what hath been by some men ascribed to these maxims, may be apt to be cried out against, as overturning the foundations of all the sciences, it may be worth while to consider them, with respect to other parts of our knowledge, and examine more particularly to what purposes they serve, and to what not.

1. It is evident from what has been already said, that they are of no use to prove or confirm less general self-evident propositions.

2. It is as plain that they are not, nor have been the foundations whereon any science hath been built. There is, I know, a great deal of talk, propagated from scholastic men, of sciences, and the maxims on which they are built: but it has been my ill luck never to meet with any such sciences; much less any one built upon these two maxims, *What is, is; and, It is impossible for the same thing to be, and not to be.* And I would be glad to be shewn where any such science erected upon these, or any other general axioms, is to be found, and should be obliged to any one who would lay before me the frame and system of any science so built on these, or any such like maxims, that could not be shewn to stand as firm without any consideration of them. I ask, whether these general maxims have not the same use in the study of divinity, and in theological questions, that they have in other sciences? They serve here too, to silence wranglers, and put an end to dispute. But, I think, that no-body will therefore say, that the Christian religion is built upon these maxims, or that the knowledge we have of it is derived from these principles. It is from revelation we have received it, and without revelation these maxims had never been able to help us to it.

When we find out an idea, by whose intervention we discover the connection of two others, this is a revelation from God to us, by the voice of reason. For we then come to know a truth that we did not know before. When God declares any truth to us, this is a revelation to us by the voice of his Spirit, and we are advanced in our knowledge. But in neither of these do we receive our light or knowledge from maxims. But in the one the things themselves afford it, and we see the truth in them by perceiving their agreement or disagreement. In the other, God himself affords it immediately to us, and we see the truth of what he says in his unerring veracity.

3. They are not of use to help men forward in the advancement of sciences, or new discoveries of yet unknown truths. Mr Newton, in his never-enough to be admired book, has demonstrated several propositions, which are so many new truths before unknown to the world, and are farther advances in mathematical knowledge: but for the discovery of these, it was not the general maxims, *What is, is*; or, *The whole is bigger than a part*, or the like, that helped him. These were not the clues that led him into the discovery of the truth and certainty of those propositions. Nor was it by them that he got the knowledge of those demonstrations; but by finding out intermediate ideas, that shewed the agreement or disagreement of the ideas, as expressed in the propositions he demonstrated. This is the greatest exercise and improvement of human understanding in the enlarging of knowledge, and advancing the sciences; wherein they are far enough from receiving any help from the contemplation of these, or the like magnified maxims. Would those who have this traditional

admiration of these propositions, that they think no step can be made in knowledge without the support of an axiom, no stone laid in the building of the sciences without a general maxim, but distinguish between the method of acquiring knowledge, and of communicating, between the method of raising any science, and that of teaching it to others as far as it is advanced, they would see that those general maxims were not the foundations on which the first discoverers raised their admirable structures, nor the keys that unlocked and opened those secrets of knowledge. Though afterwards, when schools were erected, and sciences had their professors to teach what others had found out, they often made use of maxims, *i. e.* laid down certain propositions which were self-evident, or to be received for true, which being settled in the minds of their scholars, as unquestionable verities, they on occasion made use of, to convince them of truths in particular instances, that were not so familiar to their minds as those general axioms which had before been inculcated to them, and carefully settled in their minds. Though these particular instances, when well reflected on, are no less self-evident to the understanding, than the general maxims brought to confirm them: and it was in those particular instances, that the first discoverer found the truth, without the help of the general maxims: and so may any one else do, who with attention considers them.

To come therefore to the use that is made of maxims.

(1.) They are of use, as has been observed, in the ordinary methods of teaching sciences, as far

as they are advanced ; but of little or none in advancing them farther.

(2.) They are of use in disputes, for the silencing of obstinate wranglers, and bringing those contests to some conclusion. Whether a need of them to that end, came not in, in the manner following, I creave leave to inquire. The schools having made disputation the touch-stone of mens abilities, and the criterion of knowledge, adjudged victory to him that kept the field ; and he that had the last word, was concluded to have the better of the argument, if not of the cause. But because by this means there was like to be no decision between skilful combatants, whilst one never failed of a *medius terminus* to prove any proposition, and the other could as constantly, without, or with a distinction, deny the *major* or *minor* : to prevent, as much as could be, the running out of disputes into an endless train of syllogisms, certain general propositions, most of them indeed self-evident, were introduced into the schools ; which being such as all men allowed and agreed in, were looked on as general measures of truth, and served instead of principles, (where the disputants had not laid down any other between them), beyond which there was no going, and which must not be receded from by either side. And thus these maxims getting the name of principles, beyond which men in dispute could not retreat, were by mistake taken to be originals and sources from whence all knowledge began, and the foundations whereon the sciences were built ; because when in their disputes they came to any of these, they stopped there, and went no farther, the matter was determined. But how much this is a mistake, hath been already shewn.

This method of the schools, which hath been thought the fountains of knowledge, introduced, as I suppose, the like use of these maxims, into a great part of conversation out of the schools, to stop the mouths of cavillers, whom any one is excused from arguing any longer with, when they deny these general self-evident principles received by all reasonable men, who have once thought of them; but yet their use herein is but to put an end to wrangling. They in truth, when urged in such cases, teach nothing: that is already done by the intermediate ideas made use of in the debate, whose connection may be seen without the help of those maxims, and so the truth known before the maxim is produced, and the argument brought to a first principle. Men would give off a wrong argument before it came to that, if in their disputes they proposed to themselves the finding and embracing of truth, and not a contest for victory. And thus maxims have their use to put a stop to their perverseness, whose ingenuity should have yielded sooner. But the method of the schools having allowed and encouraged men to oppose and resist evident truth, till they are baffled, *i. e.* till they are reduced to contradict themselves, or some established principle; it is no wonder that they should not, in civil conversation, be ashamed of that which in the schools is counted a virtue and a glory; *viz.* obstinately to maintain that side of the question they have chosen, whether true or false, to the last extremity, even after conviction. A strange way to attain truth and knowledge; and that which I think the rational part of mankind, not corrupted by education, could scarce believe should ever be admitted amongst the lovers of truth, and students of religion or nature, or

introduced into the seminaries of those who are to propagate the truths of religion or philosophy amongst the ignorant and unconvinced. How much such a way of learning is likely to turn young mens-minds from the sincere search and love of truth; nay, and to make them doubt whether there is any such thing, or at least worth the adhering to, I shall not now inquire. This, I think, that bating those places which brought the Peripatetic philosophy into their schools, where it continued many ages, without teaching the world any thing but the art of wrangling; these maxims were no-where thought the foundations on which the sciences were built, nor the great helps to the advancement of knowledge.

As to these general maxims therefore, they are, as I have said, of great use in disputes, *to stop the mouths of wranglers*; but not of much *use* to the discovery of unknown truths, or to help the mind forwards in its search after knowledge: for whoever began to build his knowledge on this general proposition, *What is is*; or, *it is impossible for the same thing to be, and not to be*; and from either of these, as from a principle of science, deduced a system of useful knowledge; wrong opinions often involving contradictions, one of these maxims, as a touchstone, may serve well to shew whither they lead. But yet, however fit to lay open the absurdity or mistake of a man's reasoning or opinion, they are of very little use for enlightening the understanding; and it will not be found, that the mind receives much help from them in its progress in knowledge; which would be neither less, nor less certain, were these two general propositions never thought on. It is true, as I have said, they sometimes serve in argumentation to stop^a

wrangler's mouth, by shewing the absurdity of what he saith, and by exposing him to the shame of contradicting what all the world knows, and he himself cannot but own to be true. But it is one thing to shew a man that he is in an error, and another to put him in possession of truth; and I would fain know what truths these two propositions are able to teach, and by their influence make us know, which we did not know before, or could not know without them. Let us reason from them as well as we can, they are only about identical predications, and influence, if any at all, none but such. Each particular proposition concerning identity or diversity, is as clearly and certainly known in itself, if attended to, as either of these general ones; only these general ones, as serving in all cases, are therefore more inculcated and insisted on. As to other less general maxims, many of them are no more than bare verbal propositions, and teach us nothing but the respect and import of names one to another. *The whole is equal to all its parts*: what real truth, I beseech you, does it teach us? What more is contained in that maxim, than what the signification of the word *totum*, or the *whole*, does of itself import? And he that knows that the word *whole* stands for what is made up of all its parts, knows very little less, than that the *whole* is equal to all its *parts*. And upon the same ground, I think that this proposition, *A hill is higher than a valley*, and several the like, may also pass for maxims. But yet masters of mathematics, when they would, as teachers of what they know, initiate others in that science, do not without reason place this, and some other such maxims, at the entrance of their systems, that

their scholars, having in the beginning perfectly acquainted their thoughts with these propositions made in such general terms, may be used to make such reflections, and have these more general propositions, as formed rules and sayings, ready to apply to all particular cases. Not that if they be equally weighed, they are more clear and evident than the particular instances they are brought to confirm: but that being more familiar to the mind, the very naming them is enough to satisfy the understanding. But this, I say, is more from our custom of using them, and the establishment they have got in our minds, by our often thinking of them, than from the different evidence of the things. But before custom has settled methods of thinking and reasoning in our minds, I am apt to imagine it is quite otherwise; and that the child, when a part of his apple is taken away, knows it better in that particular instance, than by this general proposition, *The whole is equal to all its parts*; and that if one of these have need to be confirmed to him by the other, the general has more need to be let into his mind by the particular, than the particular by the general. For in particulars our knowledge begins, and so spreads itself, by degrees, to generals; though afterwards the mind takes the quite contrary course, and having drawn its knowledge into as general propositions as it can, makes those familiar to its thoughts, and accustoms itself to have recourse to them, as to the standards of truth and falsehood. By which familiar use of them, as rules to measure the truth of other propositions, it comes in time to be thought, that more particular propositions have their truth and evidence from their conformity to these more general ones, which,

and argumentation, are so frequently urged, and constantly admitted. And this I think to be the reason why, among so many self-evident propositions, the most general only have had the title of maxims.

§ 12. One thing farther, I think, it may not be amiss to observe concerning these general maxims, that they are so far from improving or establishing our minds in true knowledge, that if our notions be wrong, loose, or unsteady, and we resign up our thoughts to the sound of words, rather than fix them on settled determined ideas of things; I say, these general maxims will serve to confirm us in mistakes; and in such a way of use of words which is most common, will serve to prove contradictions: *v. g.* he that, with Des Cartes, shall frame in his mind an idea of what he calls *body*, to be nothing but extension, may easily demonstrate, that there is no *vacuum*, i. e. no space void of body, by this maxim, *What is, is*: for the idea to which he annexes the name *body*, being bare extension, his knowledge that space cannot be without body is certain: for he knows his own idea of extension clearly and distinctly, and knows that it is *what it is*, and not another idea, though it be called by these three names, *extension, body, space*. Which three words standing for one and the same idea, may, no doubt, with the same evidence and certainty, be affirmed one of another, as each of itself: and it is as certain, that whilst I use them all to stand for one and the same idea, this predication is as true and identical in its signification, *that space is body*, as this predication is true and identical, *that body is body*, both in signification and sound.

§ 13. But if another shall come, and make to himself another idea, different from Des Cartes's, of the thing, which yet, with Des Cartes, he calls by the same name *body*, and make his idea, which he expresses by the word *body*, to be of a thing that hath both *extension* and *solidity* together, he will as easily demonstrate, that there may be a *vacuum*, or space without a body, as Des Cartes demonstrated the contrary. Because the idea to which he gives the name *space*, being barely the simple one of *extension*; and the idea, to which he gives the name *body*, being the complex idea of *extension* and *resistibility*, or *solidity*, together in the same subject, these two ideas are not exactly one and the same, but in the understanding as distinct as the ideas of one and two, white and black, or as of *corporiety* and *humanity*, if I may use those barbarous terms: and therefore the predication of them in our minds, or in words standing for them, is not identical, but the negation of them one of another; viz. this proposition, *extension, or space, is not body*, is as true and evidently certain, as this maxim, *It is impossible for the same thing to be, and not to be*, can make any proposition.

§ 14. But yet, though both these propositions, as you see, may be equally demonstrated, viz. that there may be a *vacuum*, and that there cannot be a *vacuum*, by these two certain principles, viz. *What is, is*; and, *the same thing cannot be, and be*; yet neither of these principles will serve to prove to us, that any, or what bodies do exist: for that we are left to our senses, to discover to us as far as they can. Those universal and self-evident principles, being only our constant, clear, and distinct knowledge of our own ideas,

more general or comprehensive, can assure us of nothing that passes without the mind; their certainty is founded only upon the knowledge we have of each idea by itself, and of its distinction from others; about which we cannot be mistaken whilst they are in our minds, though we may, and often are mistaken, when we retain the names without the ideas; or use them confusedly, sometimes for one, and sometimes for another idea. In which cases, the force of these axioms, reaching only to the sound, and not the signification of the words, serves only to lead us into confusion, mistake, and error. It is to shew men, that these maxims, however cried up for the great guards of truth, will not secure them from error in a careless, loose use of their words, that I have made this remark. In all that is here suggested concerning their little use for the improvement of knowledge, or dangerous use in undetermined ideas, I have been far enough from saying or intending they should be laid aside, as some have been too forward to charge me. I affirm them to be truths, self-evident truths; and so cannot be laid aside. As far as their influence will reach, it is in vain to endeavour, nor will I attempt to abridge it. But yet, without any injury to truth or knowledge, I may have reason to think their use is not answerable to the great stress which seems to be laid on them, and I may warn men not to make an ill use of them, for the confirming themselves in errors.

§ 15. But let them be of what use they will in verbal propositions, they cannot discover or prove to us the least knowledge of the nature of substances, as they are found and exist without us, any farther than grounded on experience. And though the consequence of these two propositions, called

principles, be very clear, and their use not dangerous or hurtful, in the probation of such things, wherein there is no need at all of them for proof, but such as are clear by themselves without them, *viz.* where our ideas are determined, and known by the names that stand for them: yet when these principles, *viz.* *What is, is*; and, *it is impossible for the same thing to be, and not to be*, are made use of in the probation of propositions, wherein are words standing for complex ideas, *v. g.* *man, horse, gold, virtue*; there they are of infinite danger, and most commonly make men receive and retain falsehood for manifest truth, and uncertainty for demonstration: upon which follow error, obstinacy, and all the mischiefs that can happen from wrong reasoning. The reason whereof is not, that these principles are less true, or of less force in proving propositions made of terms standing for complex ideas, than where the propositions are about simple ideas. But because men mistake generally, thinking that where the same terms are preserved, the propositions are about the same things, though the ideas they stand for are in truth different: therefore these maxims are made use of to support those, which in sound and appearance are contradictory propositions; as is clear in the demonstrations above mentioned about a *vacuum*. So that whilst men take words for things, as usually they do, these maxims may and do commonly serve to prove contradictory propositions: as shall yet be farther made manifest.

§ 16. For instance: let MAN be that concerning which you would by these first principles demonstrate any thing, and we shall see, that so far as demonstration is by these principles, it is only

verbal, and gives us no certain universal true proposition, or knowledge of any being existing without us. *First*, A child having framed the idea of a *man*, it is probable, that his idea is just like that picture which the painter makes of the visible appearances joined together; and such a complication of ideas together in his understanding, makes up the single complex idea which he calls *man*, whereof white or flesh-colour in England being one, the child can demonstrate to you, that *a negro is not a man*, because white colour was one of the constant simple ideas of the complex idea he calls *man*: and therefore he can demonstrate by the principle, *It is impossible for the same thing to be, and not to be*, that *a negro is not a man*; the foundation of his certainty being not that universal proposition, which perhaps he never heard nor thought of, but the clear distinct perception he hath of his own simple ideas of black and white, which he cannot be persuaded to take, nor can ever mistake one for another, whether he knows that maxim or no: and to this child, or any one who hath such an idea, which he calls *man*, can you never demonstrate that a man hath a soul, because his idea of man includes no such notion or idea in it. And therefore to him, the principle of *what is, is*, proves not this matter; but it depends upon collection and observation, by which he is to make his complex idea called *man*.

§ 17. *Secondly*, Another that hath gone farther in framing and collecting the idea he calls *man*, and to the outward shape adds *laughter* and *rational discourse*, may demonstrate, that infants and changelings are no men, by this maxim, *It is impossible for the same thing to be, and not to be*: and I have

discoursed with very rational men, who have actually denied that they are men.

§ 18. *Thirdly*, Perhaps another makes up the complex idea which he calls *man*, only out of the ideas of body in general, and the powers of language and reason, and leaves out the shape wholly: this man is able to demonstrate, that a man may have no hands, but be *quadrupes*, neither of those being included in his idea of man; and in whatever body or shape he found speech and reason joined, that was a man: because having a clear knowledge of such a complex idea, it is certain that *what is, is*.

§ 19. So that, if rightly considered, I think we may say, that where our ideas are determined in our minds, and have annexed to them by us known and steady names under those settled determinations, there is *little need*, or *no use* at all of these maxims, to prove the agreement or disagreement of any of them. He that cannot discern the truth or falsehood of such propositions, without the help of these, and the like maxims, will not be helped by these maxims to do it: since he cannot be supposed to know the truth of these maxims themselves without proof, if he cannot know the truth of others without proof, which are as self-evident as these. Upon this ground it is, that intuitive knowledge neither requires nor admits any proof, one part of it more than another. He that will suppose it does, takes away the foundation of all knowledge and certainty: and he that needs any proof to make him certain, and give his assent to this proposition, that *two are equal to two*, will also have need of a proof to make him admit, that *what is, is*. He that needs a probation to convince him, that *two*

are not three, that white is not black, that a triangle is not a circle, &c. or any other two determined distinct ideas are not one and the same, will need also a demonstration to convince him, that it is impossible for the same thing to be, and not to be.

§.20. And as these maxims are of *little use* where we have determined ideas, so they are, as I have shewed, of *dangerous use* where our ideas are not determined; and where we use words that are not annexed to determined ideas, but such as are of a loose and wandering signification, sometimes standing for one, and sometimes for another idea: from which follows mistake and error, which these maxims (brought as proofs to establish propositions, wherein the terms stand for undetermined ideas) do by their authority confirm and rivet.

C H A P. VIII.

Of TRIFLING PROPOSITIONS.

§ 1. *Some propositions bring no increase to our knowledge.* § 2, 3. *As, first, identical propositions.* § 4. *Secondly, When a part of any complex idea is predicated of the whole.* § 5. *As part of the definition of the term defined.* § 6. *Instance, man and palfrey.* § 7. *For this teaches but the signification of words.* § 8. *But no real knowledge.* § 9. *General propositions concerning substances, are often trifling.* § 10. *And why.* § 11. *Thirdly, Using words variously, is trifling with them.* § 12. *Marks of verbal propositions. First, Predication in abstract.* § 13. *Secondly, A part of the definition predicated of any term.*

§ 1. **W**HETHER the maxims treated of in the foregoing chapter, be of that use to real knowledge as is generally supposed, I leave to be considered. This, I think, may confidently be affirmed, that there are universal propositions, which, though they be certainly true, yet they add no light to our understandings, bring no increase to our knowledge. Such are,

§ 2. *First, All purely identical propositions.* These obviously, and at first blush, appear to contain no instruction in them: for when we affirm the said term of itself, whether it be barely verbal, or whether it contains any clear and real idea, it shews us nothing but what we must certainly

know before, whether such a proposition be either made by, or proposed to us. Indeed, that most general one, *what is, is*, may serve sometimes to shew a man the absurdity he is guilty of, when by circumlocution, or equivocal terms, he would, in particular instances, deny the same thing of itself; because no-body will so openly bid defiance to common sense, as to affirm visible and direct contradictions in plain words: or if he does, a man is excused if he breaks off any farther discourse with him. But yet, I think, I may say, that neither that received maxim, nor any other identical proposition, teaches us any thing: and though in such kind of propositions, this great and magnified maxim, boasted to be the foundation of demonstration, may be, and often is made use of to confirm them, yet all it proves, amounts to no more than this, that the same word may, with great certainty, be affirmed of itself, without any doubt of the truth of any such proposition; and, let me add also, without any real knowledge.

§ 3. For at this rate, any very ignorant person, who can but make a proposition, and knows what he means when he says, *Ay* or *No*, may make a million of propositions, of whose truths he may be infallibly certain, and yet not know one thing in the world thereby; *v. g.* *What is a soul, is a soul*; or *a soul is a soul*; *a spirit is a spirit*; *a fetiche is a fetiche*, &c. These all being equivalent to this proposition, *viz.* *What is, is*; *i. e.* *what hath existence, hath existence*; or *who hath a soul, hath a soul*. What is this more than trifling with words? It is but like a monkey shifting his oyster from one hand to the other; and had he had but words, might, no doubt, have said, Oyster in right hand is *subject*, and oyster

in left hand is *predicate* : and so might have made a self-evident *proposition* of oyster, *i. e.* *oyster* is *cyster* ; and yet with all this, not have been one whit the wiser, or more knowing : and that way of handling the matter, would much at one have satisfied the monkey's hunger, or a man's understanding ; and they two would have improved in knowledge and bulk together.

I know there are some, who, because identical propositions are self-evident, shew a great concern for them, and think they do great service to philosophy by crying them up, as if in them was contained all knowledge, and the understanding were led into all truth by them only. I grant, as forwardly as any one, that they are all true, and self-evident. I grant farther, that the foundation of all our knowledge lies in the faculty we have of perceiving the same idea to be the same, and of discerning it from those that are different, as I have shewn in the foregoing chapter. But how that vindicates the making use of *identical propositions*, for the improvement of knowledge, from the imputation of trifling, I do not see. Let any one repeat, as often as he pleases, that the *will* is the *will*, or lay what stress on it he thinks fit ; of what use is this, and an infinite the like propositions, for the enlarging our knowledge ? Let a man abound, as much as the plenty of words which he has will permit him, in such propositions as these ; *A law is a law*, and *obligation is obligation* ; *right is right*, and *wrong is wrong* ; will these and the like ever help him to an acquaintance with ethics ? or instruct him or others in the knowledge of morality ? Those who know not, nor perhaps ever will know, what is *right*, and what is *wrong*, nor the measures of them,

can with as much assurance make, and infallibly know the truth of these and all such propositions, as he that is best instructed in morality can do. But what advance do such propositions give in the knowledge of any thing necessary or useful for their conduct?

He would be thought to do little less than trifle, who for the enlightening the understanding in any part of knowledge, should be busy with identical propositions, and insist on such maxims as these; *Substance is substance, and body is body; a vacuum is a vacuum, and a vortex is a vortex; a centaur is a centaur, and a chimera is a chimera, &c.* For these, and all such, are equally true, equally certain, and equally self-evident. But yet they cannot but be counted trifling, when made use of as principles of instruction, and stress laid on them as helps to knowledge; since they teach nothing but what every one, who is capable of discourse, knows without being told, *viz.* that the same term is the same term, and the same idea the same idea. And upon this account it was that I formerly did, and do still think, the offering and inculcating such propositions, in order to give the understanding any new light or inlet into the knowledge of things, no better than trifling.

Instruction lies in something very different; and he that would enlarge his own, or another's mind, to truths he does not yet know, must find out intermediate ideas; and then lay them in such order one by another, that the understanding may see the agreement or disagreement of those in question. Propositions that do this are instructive: but they are far from such as affirm the same term of itself; which is no way to advance one's self or others in any sort of knowledge. It no more helps

to that, than it would help any one, in his learning to read, to have such propositions as these inculcated to him, *an A is an A*, and *a B is a B*; which a man may know as well as any school-master, and yet never be able to read a word as long as he lives. Nor do these, or any such identical propositions, help him one jot forwards in the skill of reading, let him make what use of them he can.

If those who blame my calling them *trifling propositions*, had but read, and been at the pains to understand what I had above writ in very plain English, they could not but have seen, that by *identical propositions*, I mean only such wherein the same term importing the same idea, is affirmed of itself: which I take to be the proper signification of *identical propositions*; and concerning all such, I think I may continue safely to say, that to propose them as instructive, is no better than trifling. For no one who has the use of reason, can miss them, where it is necessary they should be taken notice of; nor doubt of their truth, when he does take notice of them.

But if men will call *propositions identical*, wherein the same term is not affirmed of itself, whether they speak more properly than I, others must judge: this is certain, all that they say of propositions that are not identical, in my sense, concerns not me, nor what I have said; all that I have said relating to those propositions, wherein the same term is affirmed of itself. And I would fain see an instance, wherein any such can be made use of, to the advantage and improvement of any one's knowledge. Instances of other kinds, whatever use may be made of them, concern not me, as not being such as I call *identical*.

§ 4. Secondly, Another sort of trifling propo-

tions is, *when a part of the complex idea is predicated of the name of the whole*; a part of the definition of the word defined. Such are all propositions wherein the *genus* is predicated of the *species*, or more comprehensive of less comprehensive terms: for what information, what knowledge carries this proposition in it, *viz. Lead is a metal*, to a man who knows the complex idea the name *lead* stands for. All the simple ideas that go to the complex one signified by the term *metal*, being nothing but what he before comprehended, and signified by the name *lead*. Indeed, to a man that knows the signification of the word *metal*, and not of the word *lead*, it is a shorter way to explain the signification of the word *lead*, by saying it is a *metal*, which at once expresses several of its simple ideas, than to enumerate them one by one, telling him it is a body very *heavy*, *fusible*, and *malleable*.

§ 5. A like trifling it is, to predicate any other part of the definition of the term defined, or to affirm any one of the simple ideas of a complex one, of the name of the whole complex idea; as, *All gold is fusible*. For *fusibility* being one of the simple ideas that goes to the making up the complex one the sound *gold* stands for, what can it be but playing with sounds, to affirm that of the name *gold*, which is comprehended in its received signification? It would be thought little better than ridiculous, to affirm gravely, as a truth of moment, that *gold is yellow*; and I see not how it is any jot more material to say, *it is fusible*, unless that quality be left out of the complex idea, of which the sound *gold* is the mark in ordinary speech. What instruction can it carry with it, to tell one that which he hath been told already,

or he is supposed to know before? For I am supposed to know the signification of the word another uses to me, or else he is to tell me. And if I know that the name *gold* stands for this complex idea of *body, yellow, heavy, fusible, malleable*, it will not much instruct me to put it solemnly afterwards in a proposition, and gravely say, *All gold is fusible*. Such propositions can only serve to shew the disingenuity of one, who will go from the definition of his own terms, by reminding him sometimes of it; but carry no knowledge with them, but of the signification of words, however certain they be.

§ 6. *Every man is an animal*, or living body, is as certain a proposition as can be; but no more conducing to the knowledge of things, than to say, *A palfrey is an ambling horse*, or a neighing-ambling animal, both being only about the signification of words, and make me know but this, that *body, sense, and motion*, or power of sensation and moving, are three of those ideas that I always comprehend and signify by the word *man*; and where they are not to be found together, the name *man* belongs not to that thing: and so of the other, that *body, sense, and a certain way of going, with a certain kind of voice*, are some of those ideas which I always comprehend and signify by the word *palfrey*; and when they are not to be found together, the name *palfrey* belongs not to that thing. It is just the same, and to the same purpose, when any term standing for any one or more of the simple ideas, that all together make up that complex idea which is called *man*, is affirmed of the term *man*; v. g. suppose a *Roman* signified, by the word *homo*, all these distinct ideas united in one subject, *corporietas, sen-*

sibilitas, potentia se movendi, rationalitas, risibilitas; he might, no doubt, with great certainty, universally affirm one, more, or all of these together of the word *homo*, but did no more than say, that the word *homo*, in his country, comprehended, in its signification, all these ideas. Much like a romance-knight, who, by the word *palfrey*, signified these ideas, *body of a certain figure, four-legged, with sense, motion, ambling, neighing, white, used to have a woman on his back*, might, with the same certainty, universally affirm also any or all of these of the word *palfrey*; but did thereby teach no more, but that the word *palfrey*, in his, or romance-language, stood for all these, and was not to be applied to any thing, where any of these was wanting. But he that shall tell me, that in whatever thing *sense, motion, reason, and laughter* were united, that thing had actually a notion of GOD, or would be cast into a sleep by *opium*, made indeed an instructive proposition; because, neither *having the notion of God*, nor *being cast into sleep by opium*, being contained in the idea signified by the word *man*, we are by such propositions taught something more than barely what the word *man* stands for: and therefore the knowledge contained in it is more than verbal.

§ 7. Before a man makes any proposition, he is supposed to understand the terms he uses in it, or else he talks like a parrot, only making a noise by imitation, and framing certain sounds which he has learned of others; but not as a rational creature, using them for signs of ideas which he has in his mind. The hearer also is supposed to understand the terms as the speaker uses them, or else he talks jargon, and makes an unintelligible noise. And therefore he trifles with words, who

makes such a proposition, which, when it is made, contains no more than one of the terms does, and which a man was supposed to know before, *v. g. a triangle hath three sides, or saffron is yellow.* And this is no farther tolerable, than where a man goes to explain his terms, to one who is supposed, or declares himself not to understand him: and then it teaches only the signification of that word, and the use of that sign.

§ 8. We can know then the truth of two sorts of propositions, with perfect certainty; the one is, of those trifling propositions which have a certainty in them, but it is only a *verbal certainty*, but not instructive. And, secondly, we can know the truth, and so may be certain in propositions, which affirm something of another, which is a necessary consequence of its precise complex idea, but not contained in it: as that the *external angle of all triangles is bigger than either of the opposite internal angles*; which relation of the outward angle, to either of the opposite internal angles, making no part of the complex idea signified by the name *triangle*, this is a real truth, and conveys with it instructive real knowledge.

§ 9. We having little or no knowledge of what combinations there be of simple ideas existing together in substances, but by our senses, we cannot make any universal certain propositions concerning them, any farther than our nominal essences lead us; which being to a very few and inconsiderable truths, in respect of those which depend on their real constitutions, the general propositions that are made about substances, if they are certain, are for the most part but trifling; and if they are instructive, are uncertain, and such as we can have no knowledge of their real truth,

how much soever constant observation and analogy may assist our judgments in guessing. Hence it comes to pass, that one may often meet with very clear and coherent discourses, that amount yet to nothing. For it is plain, that names of substantial beings, as well as others, as far as they have relative significations affixed to them, may, with great truth, be joined negatively and affirmatively in propositions, as their relative definitions make them fit to be so joined; and propositions consisting of such terms, may, with the same clearness, be deduced one from another, as those that convey the most real truths; and all this without any knowledge of the nature or reality of things existing without us. By this method, one may make demonstrations and undoubted propositions in words, and yet thereby advance not one jot in the knowledge of the truth of things *v. g.* he that having learned these following words with their ordinary mutual relative acceptations annexed to them, *v. g. substance, man, animal, form, soul, vegetative, sensitive, rational*, may make several undoubted propositions about the soul, without knowing at all what the soul really is; and of this sort, a man may find an infinite number of propositions, reasonings, and conclusions, in books of metaphysics, school-divinity, and some sort of natural philosophy; and after all, know as little of God, *spirits* or *bodies*, as he did before he set out.

§ 10. He that hath liberty to define, *i. e.* determine the signification of his names of substances, (as certainly every one does in effect, who makes them stand for his own ideas), and makes their significations at a venture, taking them from his own or other mens fancies, and not from an examination or inquiry into the nature of things

themselves, may, with little trouble, demonstrate them one of another, according to those several respects, and mutual relations he has given them one to another; wherein, however things agree or disagree in their own nature, he needs mind nothing but his own notions, with the names he hath bestowed upon them: but thereby no more increases his own knowledge, than he does his riches, who, taking a bag of counters, calls one in a certain place a *pound*; another in another place a *shilling*; and a third in a third place, a *penny*; and so proceeding, may undoubtedly reckon right, and cast up a great sum, according to his counters so placed, and standing for more or less, as he pleases, without being one jot the richer, or without even knowing how much a pound, shilling, or penny is, but only that one is contained in the other twenty times, and contains the other twelve; which a man may also do in the signification of words, by making them, in respect of one another, more or less, or equally comprehensive.

§ 11. Though yet concerning most words used in discourses, especially argumentative and controversial, there is this more to be complained of, which is the worst sort of trifling, and which sets us yet farther from the certainty of knowledge we hope to attain by them, or find in them, *viz.* that most writers are so far from instructing us in the nature and knowledge of things, that they use their words loosely and uncertainly, and do not, by using them constantly and steadily, in the same significations, make plain and clear deductions of words one from another, and make their discourses coherent and clear, (how little soever they were instructive), which were not difficult to do, did

'they not find it convenient to shelter their ignorance or obstinacy, under the obscurity and perplexedness of their terms: to which, perhaps, inadvertency and ill custom do in many men much contribute.

§ 12. To conclude; *barely verbal propositions* may be known by these following marks:

First, All propositions, wherein two abstract terms are affirmed one of another, are barely about the signification of sounds. For since no abstract idea can be the same with any other but itself, when its abstract name is affirmed of any other term, it can signify no more but this, that it may, or ought to be called by that name; or that these two names signify the same idea. Thus should any one say, that *parsimony is frugality*, that *gratitude is justice*; that this or that action is or is not *temperance*; however specious these and the like propositions may at first sight seem, yet when we come to press them, and examine nicely what they contain, we shall find, that it all amounts to nothing, but the signification of those terms.

§ 13. *Secondly*, All propositions, wherein a part of the complex idea, which any term stands for, is predicated of that term, are only verbal, *v. g.* to say, *that gold is a metal*, or *heavy*. And thus all propositions, wherein more comprehensive words, called *genera*, are affirmed of subordinate, or less comprehensive, called *species* or *individuals*, are barely verbal.

When by these two rules, we have examined the propositions that make up the discourses we ordinarily meet with, both in and out of books, we shall perhaps find that a greater part of them than is usually suspected, are purely about the

signification of words, and contain nothing in them but the use and application of these signs.

This, I think, I may lay down for an infallible rule, that where-ever the distinct idea any word stands for is not known and considered, and something not contained in the idea is not affirmed or denied of it, there our thoughts stick wholly in sounds, and are able to attain no real truth or falsehood. This, perhaps, if well heeded, might save us a great deal of useless amusement and dispute, and very much shorten our trouble and wandering in the search of real and true knowledge.

CHAP. IX.

Of our KNOWLEDGE of EXISTENCE.

- § 1. *General certain propositions concern not existence.* § 2. *A threefold knowledge of existence.*
 § 3. *Our knowledge of our own existence is intuitive.*

§ 1. **H**ITHERTO we have only considered the essences of things, which, being only abstract ideas, and thereby removed in our thoughts from particular existence, (that being the proper operation of the mind, in abstraction, to consider an idea under no other existence, but what it has in the understanding), give us no knowledge of real existence at all. Where, by the way, we may take notice, that *universal propositions*, of whose truth or falsehood we can have certain knowledge, concern not *existence*; and farther, that all *particular affirmations or negations*,

that would not be certain, if they were made general, are only concerning *existence*; they declaring only the accidental union or separation of ideas in things existing, which, in their abstract natures, have no known necessary union or repugnancy.

§ 2. But leaving the nature of propositions, and different ways of predication, to be considered more at large in another place, let us proceed now to inquire concerning our knowledge of the *existence* of things, and how we come by it. I say then, that we have the knowledge of *our own existence* by *intuition*; of the *existence* of GOD by *demonstration*; and of other things by *sensation*.

§ 3. As for *our own existence*, we perceive it so plainly, and so certainly, that it neither needs, nor is capable of, any proof. For nothing can be more evident to us than our own existence. *I think, I reason, I feel pleasure and pain*: can any of these be more evident to me than my own existence? If I doubt of all other things, that very doubt makes me perceive my own existence, and will not suffer me to doubt of that. For if I know *I feel pain*, it is evident I have as certain perception of my own existence, as of the existence of the pain I feel: or if I know *I doubt*, I have as certain perception of the existence of the thing doubting, as of that thought which I call *doubt*. Experience then convinces us, that we have an intuitive knowledge of our own existence, and an internal infallible perception that we are. In every act of sensation, reasoning, or thinking, we are conscious to ourselves of our own being; and, in this matter, come not short of the highest degree of certainty.

C H A P. X.

*Of our KNOWLEDGE of the EXISTENCE
of a GOD.*

§ 1. *We are capable of knowing certainly that there is a God.* § 2. *Man knows that he himself is.* § 3. *He knows also, that nothing cannot produce a being, therefore something eternal.* § 4. *That eternal being must be most powerful.* § 5. *And most knowing.* § 6. *And therefore God.* § 7. *Our idea of a most perfect being, not the sole proof of a God.* § 8. *Something from eternity.* § 9. *Two sorts of beings, cogitative and incogitative.* § 10. *Incogitative being cannot produce a cogitative.* § 11, 12. *Therefore there has been an eternal Wisdom.* § 13. *Whether material or no.* § 14. *Not material, first, because every particle of matter is not cogitative.* § 15. *Secondly, One particle alone of matter cannot be cogitative.* 16. *Thirdly, A system of incogitative matter cannot be cogitative.* § 17. *Whether in motion, or at rest.* § 18, 19. *Matter not co-eternal with an eternal Mind.*

§ 1. **T**HOUGH GOD has given us no innate ideas of himself; though he has stamped no original characters on our minds, wherein we may read his being; yet, having furnished us with those faculties our minds are endowed with, he hath not left himself without witness; since we have sense, perception, and reason, and cannot want a clear proof of him, as long as we carry ourselves about us. Nor can we justly complain

of our ignorance in this great point, since he has so plentifully provided us with the means to discover, and know him, so far as is necessary to the end of our being, and the great concernment of our happiness. But though this be the most obvious truth that reason discovers, and though its evidence be, if I mistake not, equal to mathematical certainty; yet it requires thought and attention, and the mind must apply itself to a regular deduction of it from some part of our intuitive knowledge, or else we shall be as uncertain and ignorant of this, as of other propositions, which are in themselves capable of clear demonstration. To shew therefore that we are capable of *knowing*, i. e. *being certain that there is a God*, and how we may come by this certainty, I think we need go no farther than ourselves, and that undoubted knowledge we have of our own existence.

§ 2. I think it is beyond question, that *man has a clear perception of his own being*; he knows certainly, that he exists, and that he is something. He that can doubt, whether he be any thing or no, I speak not to, no more than I would argue with pure nothing, or endeavour to convince non-entity, that it were something. If any one pretends to be so sceptical as to deny his own existence, (for really to doubt of it, is manifestly impossible), let him for me enjoy his beloved happiness of being nothing, until hunger, or some other pain, convince him of the contrary. This then, I think, I may take for a truth, which every one's certain knowledge assures him of beyond the liberty of doubting, *viz.* that he is something that actually exists.

§ 3. In the next place, man knows by an intuitive certainty, that bare *nothing* can no more

produce any *real being*, than it can be equal to *two right angles*. If a man knows not that non-entity, or the absence of all being, cannot be equal to two right angles, it is impossible he should know any demonstration in Euclid. If therefore we know there is some real being, and that non-entity cannot produce any real being, it is an evident demonstration, that from eternity there has been something; since what was not from eternity, had a beginning; and what had a beginning, must be produced by something else.

§ 4. Next, it is evident, that what had its being and beginning from another, must also have all that which is in, and belongs to its being, from another too. All the powers it has must be owing to, and received from the same source. This eternal Source then of all being, must also be the source and original of all power; and so this eternal Being must be also the most powerful.

§ 5. Again, a man finds in himself *perception* and *knowledge*. We have then got one step farther; and we are certain now, that there is not only some being, but some knowing intelligent being in the world.

There was a time then, when there was no knowing being, and when knowledge began to be; or else, there has been also a *knowing being from eternity*. If it be said, there was a time when no being had any knowledge, when that eternal Being was void of all understanding; I reply, that then it was impossible there should ever have been any knowledge. It being as impossible that things wholly void of knowledge, and operating blindly, and without any perception, should produce a knowing being, as it is impossible, that a triangle should make itself three angles bigger

than two right ones. For it is as repugnant to the idea of senseless *matter*, that it should put into itself sense, perception, and knowledge, as it is repugnant to the idea of a triangle, that it should put into itself greater angles than two right ones.

§ 6. Thus from the consideration of ourselves, and what we infallibly find in our own constitutions, our reason leads us to the knowledge of this certain and evident truth, that *there is an eternal, most powerful, and most knowing Being*: which whether any one will please to call GOD, it matters not. The thing is evident, and from this idea duly considered, will easily be deduced all those other attributes which we ought to ascribe to this eternal Being. If nevertheless any one should be found so senselessly arrogant, as to suppose man alone knowing and wise, but yet the product of mere ignorance and chance; and that all the rest of the universe acted only by that blind hap-hazard: I shall leave with him that very rational and emphatical rebuke of Tully †, to be considered at his leisure. “What can be more sillily arrogant
“ and misbecoming, than for a man to think that
“ he has a mind and understanding in him, but
“ yet in all the universe beside, there is no such
“ thing? Or that those things, which, with
“ the utmost stretch of his reason, he can scarce
“ comprehend, should be moved and managed
“ without any reason at all?” *Quid est enim verius, quam neminem esse oportere tam stulte arrogantem, ut in se mentem et rationem putet inesse, in cælo mundoque non putet? Aut ea quæ vix summa ingenii ratione comprehendat, nulla ratione moveri putet?*

From what has been said, it is plain to me, we

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† De Legibus, lib. ii.

have a more certain knowledge of the existence of a GOD, than of any thing our senses have not immediately discovered to us. Nay, I presume I may say, that we more certainly know that there is a GOD, than that there is any thing else without us. When I say we know, I mean there is such a knowledge within our reach, which we cannot miss, if we will but apply our minds to that, as we do to several other inquiries.

§ 7. How far the idea of a *most perfect Being*, which a man may frame in his mind, does, or does not prove the *existence of a God*, I will not here examine. For in the different makes of mens tempers, and application of their thoughts, some arguments prevail more on one, and some on another, for the confirmation of the same truth. But yet, I think, this I may say, that it is an ill way of establishing this truth, and silencing Atheists, to lay the whole stress of so important a point as this upon that sole foundation: and take some mens having that idea of GOD in their minds (for it is evident, some men have none, and some worse than none, and the most very different) for the only proof of a Deity; and out of an overfondness of that darling invention, cashier, or at least endeavour to invalidate, all other arguments, and forbid us to hearken to those proofs, as being weak or fallacious, which our own existence, and the sensible parts of the universe, offer so clearly and cogently to our thoughts, that I deem it impossible for a considering man to withstand them: for I judge it as certain and clear a truth, as can any-where be delivered, that *the invisible things of God are clearly seen from the creation of the world, being understood by the things that are made, even his eternal power and Godhead.* Tho'

our own being furnishes us, as I have shewn, with an evident and incontestible proof of a Deity, and I believe no-body can avoid the cogency of it, who will but as carefully attend to it, as to any other demonstration of so many parts; yet this being so fundamental a truth, and of that consequence that all religion and genuine morality depend thereon, I doubt not but I shall be forgiven by my reader, if I go over some parts of this argument again, and enlarge a little more upon them.

§ 8. There is no truth more evident, than that *something* must be *from eternity*. I never yet heard of any one so unreasonable, or that could suppose so manifest a contradiction, as a time wherein there was perfectly nothing. This being of all absurdities the greatest, to imagine that pure nothing, the perfect negation and absence of all beings, should ever produce any real existence.

It being then unavoidable for all rational creatures to conclude that something has existed from eternity, let us next see what kind of thing that must be.

§ 9. There are but two sorts of beings in the world, that man knows or conceives.

1st, Such as are purely material, without sense, perception, or thought, as the clippings of our beards, and parings of our nails.

2^{dly}, Sensible, thinking, perceiving beings, such as we find ourselves to be: which, if you please, we will hereafter call *cogitative* and *incogitative beings*; which, to our present purpose, if for nothing else, are perhaps better terms than material and immaterial.

§ 10. If then there must be something eternal, let us see what sort of being it must be. And to

that, it is very obvious to reason, that it must necessarily be a *cogitative* being. For it is as impossible to conceive that ever bare incogitative matter should produce a thinking intelligent being, as that nothing should of itself produce matter. Let us suppose any parcel of matter eternal, great or small, we shall find it, in itself, able to produce nothing. For example, let us suppose the matter of the next pebble we meet with, eternal, closely united, and the parts firmly at rest together; if there were no other being in the world, must it not eternally remain so, a dead, inactive lump? Is it possible to conceive it can add motion to itself, being purely matter, or produce any thing? Matter then, by its own strength, cannot produce in itself so much as motion: the motion it has, must also be from eternity, or else be produced, and added to matter by some other being more powerful than matter: matter, as is evident, having not power to produce motion in itself. But let us suppose motion eternal too; yet matter, *incogitative matter* and *motion*, whatever changes it might produce of figure and bulk, *could never produce thought*. Knowledge will still be as far beyond the power of motion and matter to produce, as matter is beyond the power of *nothing* or *non-entity* to produce. And I appeal to every one's own thoughts, whether he cannot as easily conceive matter produced by *nothing*, as thought to be produced by pure matter, when before there was no such thing as ~~thought~~, or an intelligent being existing. Divide matter into as minute parts as you will, (which we are apt to imagine a sort of spiritualizing, or making a thinking thing of it), vary the figure and motion of it as much as you please, a globe, cube, cone, prism, cy-

linder, &c. whose diameters are but 1,000,000th part of a gry †, will operate no otherwise upon other bodies of proportionable bulk, than those of an inch or foot diameter; and you may as rationally expect to produce sense, thought, and knowledge, by putting together, in a certain figure and motion, gross particles of matter, as by those that are the very minuteſt, that do any-where exiſt. They knock, impel, and reſiſt one another, juſt as the greater do, and that is all they can do. So that if we will ſuppoſe nothing firſt, or eternal; matter can never begin to be; If we ſuppoſe bare matter without motion, eternal motion can never begin to be: if we ſuppoſe only matter and motion firſt, or eternal; *thought* can never begin to be. For it is impoſſible to conceive that matter, either with or without motion, could have originally, in and from itſelf, ſenſe, perception, and knowledge, as is evident from hence, that then ſenſe, perception, and knowledge, muſt be a property eternally inſeparable from matter and every particle of it. Not to add, that though our general or ſpecific conception of matter makes us ſpeak of it as one thing, yet really all matter is not one individual thing, neither is there any ſuch thing exiſting as one material

† A gry is one tenth of a line, a line one tenth of an inch, an inch one tenth of a philoſophical foot, a philoſophical foot one third of a pendulum, whoſe diadroms, in the latitude of forty-five degrees, are each equal to one ſecond of time, or one ſixtieth part of a minute. I have affectedly made uſe of this meaſure here, and the parts of it, under a decimal diviſion, with names to them; becauſe I think it would be of general convenience, that this ſhould be the common meaſure in the commonwealth of letters.

being, or one single body, that we know or can conceive. And therefore, if matter were the eternal first cogitative being, there would not be one eternal infinite cogitative being, but an infinite number of eternal finite cogitative beings, independent one of another, of limited force, and distinct thoughts, which could never produce that order, harmony, and beauty, which is to be found in nature. Since therefore whatsoever is the first eternal Being, must necessarily be cogitative; and whatsoever is first of all things, must necessarily contain in it, and actually have, at least, all the perfections that can ever after exist; nor can it ever give to another any perfection that it hath not, either actually in itself, or at least in a higher degree: it necessarily follows, that the first eternal being cannot be matter.

§ 11. If therefore it be evident, that *something* necessarily must *exist from eternity*, it is also as evident, that that something must necessarily be a *cogitative being*: for it is as impossible that incogitative matter should produce a cogitative being, as that nothing, or the negation of all being, should produce a positive being or matter.

§ 12. Though this discovery of the necessary existence of an eternal Mind, does sufficiently lead us into the knowledge of God, since it will hence follow, that all other knowing beings that have a beginning, must depend on him, and have no other ways of knowledge, or extent of power, than what he gives them; and therefore if he made those, he made also the less excellent pieces of this universe, all inanimate beings, whereby his omniscience, power, and providence, will be established, and all his other attributes necessarily

follow : yet to clear up this a little farther, we will see what doubts can be raised against it.

§ 13. *First*, Perhaps it will be said, that though it be as clear as demonstration can make it, that there must be an eternal Being, and that Being must also be knowing; yet it does not follow, but that thinking Being may also be material. Let it be so; it equally still follows, that there is a GOD: for if there be an eternal, omniscient, omnipotent Being, it is certain, that there is a GOD, whether you imagine that being to be material or no. But herein, I suppose, lies the danger and deceit of that supposition: there being no way to avoid the demonstration, that there is an eternal knowing Being, men, devoted to matter, would willingly have it granted, that this knowing Being is material; and then letting slide out of their minds, or the discourse, the demonstration whereby an eternal knowing Being was proved necessarily to exist, would argue all to be matter, and so deny a GOD, that is, an eternal cogitative Being; whereby they are so far from establishing, that they destroy their own hypothesis. For if there can be, in their opinion, eternal matter, without any eternal cogitative Being, they manifestly separate matter and thinking, and suppose no necessary connection of the one with the other, and so establish the necessity of an eternal Spirit, but not of matter, since it has been proved already, that an eternal cogitative Being is unavoidably to be granted. Now, if thinking matter may be separated, the eternal existence of matter will not follow from the eternal existence of a cogitative Being, and they suppose it to no purpose.

§ 14. But now let us see how they can satisfy

themselves or others, that this eternal thinking Being is material.

First, I would ask them, whether they imagine that all matter, *every particle of matter, thinks?* This, I suppose, they will scarce say, since then there would be as many eternal thinking beings, as there are particles of matter, and so an infinity of gods. And yet, if they will not allow matter as matter, that is, every particle of matter to be as well cogitative as extended, they will have as hard a task to make out to their own reasons, a cogitative being out of incogitative particles, as an extended being out of unextended parts, if I may so speak.

§ 15. *Secondly*, If all matter does not think, I next ask, whether it be *only ONE atom that does so?* This has as many absurdities as the other; for then this atom of matter must be alone eternal or not. If this alone be eternal, then this alone, by its powerful thought or will, made all the rest of matter. And so we have the creation of matter by a powerful thought, which is that the Materialists stick at: for if they suppose one single thinking atom to have produced all the rest of matter, they cannot ascribe that pre-eminency to it upon any other account, than that of its thinking, the only supposed difference. But allow it to be by some other way, which is above our conception, it must be still creation, and these men must give up their great maxim, *Ex nihilo nil fit*. If it be said, that all the rest of matter is equally eternal, as that thinking atom, it will be to say any thing at pleasure, though never so absurd: for to suppose all matter eternal, and yet one small particle in knowledge and power infinitely above all the rest, is without any of the least appearance of reason to frame any hypothesis.

Every particle of matter, as matter, is capable of all the same figures and motions of any others; and I challenge any one, in his thoughts, to add any thing else to one above another.

§ 16. *Thirdly*, If then neither one peculiar atom alone can be this eternal thinking Being, nor all matter, as matter, *i. e.* every particle of matter, can be it, it only remains, that it is some certain system of matter duly put together, that is this thinking eternal Being. This is that which I imagine, is that notion which men are aptest to have of God, who would have him a material being, as most readily suggested to them, by the ordinary conceit they have of themselves, and other men, which they take to be material thinking beings. But this imagination, however more natural, is no less absurd than the other: for to suppose the eternal thinking Being to be nothing else but a composition of particles of matter, each whereof is incogitative, is to ascribe all the wisdom and knowledge of that eternal Being only to the juxtaposition of parts; than which nothing can be more absurd. For unthinking particles of matter, however put together, can have nothing thereby added to them, but a new relation of position, which it is impossible should give thought and knowledge to them.

§ 17. But farther, this corporeal system either has all its parts at rest, or it is a certain motion of the parts wherein its thinking consists. If it be perfectly at rest, it is but one lump, and so can have no privileges above an atom.

If it be the motion of its parts on which its thinking depends, all the thoughts there must be unavoidably accidental and limited, since all the particles that by motion cause thought, being

each of them in itself without any thought, cannot regulate its own motions, much less be regulated by the thought of the whole, since that thought is not the cause of motion, (for then it must be antecedent to it, and so without it), but the consequence of it, whereby freedom, power, choice, and all rational and wise thinking, or acting, will be quite taken away: so that such a thinking being will be no better nor wiser than pure blind matter; since to resolve all into the accidental unguided motions of blind matter, or into thought depending on unguided motions of blind matter, is the same thing; not to mention the narrowness of such thoughts and knowledge that must depend on the motion of such parts. But there needs no enumeration of any more absurdities and impossibilities in this hypothesis, (however full of them it be), than that before mentioned, since let this thinking system be all, or a part of the matter of the universe, it is impossible that any one particle should either know its own, or the motion of any other particle, or the whole know the motion of every particular; and so regulate its own thoughts or motions, or indeed have any thought resulting from such motion.

§ 18. Others would have matter to be eternal, notwithstanding that they allow an eternal, cogitative, immaterial Being. This, though it take not away the being of a God, yet since it denies one and the first great piece of his workmanship, the creation, let us consider it a little. Matter must be allowed eternal: why? because you cannot conceive how it can be made out of nothing; why do you not also think yourself eternal? You will answer perhaps, because about twenty or

forty years hence you began to be. But if I ask you what that *you* is, which began then to be, you can scarce tell me. The matter, whereof you are made, began not then to be; for if it did, then it is not eternal: but it began to be put together in such a fashion and frame as makes up your body; but yet that frame of particles is not you, it makes not that thinking thing you are, (for I have now to do with one who allows an eternal, immaterial, thinking being, but would have unthinking matter eternal too); therefore when did that thinking thing begin to be? If it did never begin to be, then have you always been a thinking thing from eternity; the absurdity whereof I need not confute, till I meet with one who is so void of understanding as to own it. If therefore you can allow a thinking thing to be made out of nothing, (as all things that are not eternal must be), why also can you not allow it possible for a material being to be made out of nothing, by an equal power, but that you have the experience of the one in view, and not of the other? Though, when well considered, creation of a spirit will be found to require no less power than the creation of matter. Nay possibly, if we would emancipate ourselves from vulgar notions, and raise our thoughts as far as they would reach, to a closer contemplation of things, we might be able to aim at some dim and seeming conception how matter might at first be made, and begin to exist by the power of that eternal first Being: but to give beginning and being to a spirit, would be found a more inconceivable effect of omnipotent power. But this being what would perhaps lead us too far from the notions on which the philosophy now on the world is built, it would not be pardonable to deviate so

far from them, or to inquire, so far as grammar itself would authorise, if the common settled opinion opposes it; especially in this place, where the received doctrine serves well enough to our present purpose, and leaves this past doubt, that the creation, or beginning of any one substance out of nothing, being once admitted, the creation of all other, but the Creator himself, may, with the same ease, be supposed.

§ 19. But you will say, Is it not impossible to admit of the making any thing out of nothing, since we cannot possibly conceive it? I answer, No: 1. Because it is not reasonable to deny the power of an infinite being, because we cannot comprehend its operations. We do not deny other effects upon this ground, because we cannot possibly conceive the manner of their production. We cannot conceive how any thing but impulse of body can move body; and yet that is not a reason sufficient to make us deny it possible, against the constant experience we have of it in ourselves, in all our voluntary motions, which are produced in us only by the free action or thought of our own minds; and are not, nor can be the effects of the impulse or determination of the motion of blind matter in or upon our bodies; for then it could not be in our power or choice to alter it. For example: my right hand writes, whilst my left hand is still: what causes rest in one, and motion in the other? Nothing but my will, a thought of my mind; my thought only changing, the right hand rests, and the left hand moves. This is matter of fact, which cannot be denied: explain this and make it intelligible, and then the next step will be to understand creation. For the gi-

ving a new determination to the motion of the animal spirits, (which some make use of to explain voluntary motion) clears not the difficulty one jot, to alter the determination of motion, being in this case no easier nor less, than to give motion itself; since the new determination given to the animal spirits, must be either immediately by thought, or by some other body put in their way by thought, which was not in their way before, and so must owe its motion to thought; either of which leaves voluntary motion as unintelligible as it was before. In the mean time, it is an over-valuing ourselves to reduce all to the narrow measure of our capacities; and to conclude all things impossible to be done, whose manner of doing exceeds our comprehension. This is to make our comprehension infinite, or God finite, when what he can do, is limited to what we can conceive of it. If you do not understand the operations of your own finite mind, that thinking thing within you, do not deem it strange, that you cannot comprehend the operations of that eternal infinite Mind, who made and governs all things, and whom the heaven of heavens cannot contain.

C H A P. XI.

*Of our KNOWLEDGE of the EXISTENCE
of other THINGS.*

§ 1. *It is to be had only by sensation.* § 2. *Instance, whiteness of this paper.* § 3. *This, though not so certain as demonstration, yet may be called knowledge, and proves the existence of things without us.* § 4. *First, Because we cannot have them but by the inlet of the senses.* § 5. *Secondly, Because an idea from actual sensation, and another from memory, are very distinct perceptions.* § 6. *Thirdly, Pleasure or pain which accompanies actual sensation, accompanies not the returning of those ideas without the external objects.* § 7. *Fourthly, Our senses assist one another's testimony of the existence of outward things.* § 8. *This certainty is as great as our condition needs.* § 9. *But reaches no farther than actual sensation.* § 10. *Folly to expect demonstration in every thing.* § 11. *Past existence is known by memory.* § 12. *The existence of spirits not knowable.* § 13. *Particular propositions concerning existence, are knowable.* § 14. *And general propositions concerning abstract ideas.*

§ 1. **T**HE knowledge of our own being we have by intuition. The existence of a GOD, reason clearly makes known to us, as has been shewn.

The knowledge of the existence of any other

thing, we can have only by sensation: for there being no necessary connection of real existence, with any idea a man hath in his memory, nor of any other existence, but that of God, with the existence of any particular man; no particular man can know the existence of any other being, but only when, by actual operating upon him, it makes itself perceived by him. For the having the idea of any thing in our mind, no more proves the existence of that thing, than the picture of a man evidences his being in the world, or the visions of a dream make thereby a true history.

§ 2. It is therefore the actual receiving of ideas from without, that gives us notice of the existence of other things, and makes us know, that something doth exist at that time without us, which causes that idea in us, though perhaps we neither know nor consider how it does it; for it takes not from the certainty of our senses, and the ideas we receive by them, that we know not the manner wherein they are produced; *v. g.* whilst I write this, I have, by the paper affecting my eyes, that idea produced in my mind, which, whatever object causes, I call *white*; by which I know that that quality or accident, *i. e.* whose appearance before my eyes always causes that idea) doth really exist, and hath a being without me. And of this, the greatest assurance I can possibly have, and to which my faculties can attain, is the testimony of my eyes, which are the proper and sole judges of this thing: whose testimony I have reason to rely on, as so certain, that I can no more doubt, whilst I write this, that I see white and black, and that something really exists, that causes that sensation in me, than that I write or move my hand; which is a certainty as great

as human nature is capable of, concerning the existence of any thing, but a man's self alone, and of GOD.

§ 3. The notice we have by our senses, of the existing of things without us, though it be not altogether so certain as our intuitive knowledge, or the deductions of our reason, employed about the clear abstract ideas of our own minds; yet it is an assurance that deserves the name of knowledge. If we persuade ourselves, that our faculties act and inform us right concerning the existence of those objects that affect them, it cannot pass for an ill-grounded confidence; for, I think, no-body can, in earnest, be so sceptical, as to be uncertain of the existence of those things which he sees and feels. At least, he that can doubt so far, (whatever he may have with his own thoughts), will never have any controversy with me; since he can never be sure I say any thing contrary to his opinion. As to myself, I think GOD has given me assurance enough of the existence of things without me; since by their different application, I can produce in myself both pleasure and pain, which is one great concernment of my present state. This is certain, the confidence that our faculties do not herein deceive us, is the greatest assurance we are capable of, concerning the existence of material beings. For we cannot act any thing, but by our faculties; nor talk of knowledge itself, but by the help of those faculties which are fitted to apprehend even what knowledge is. But besides the assurance we have from our senses themselves, that they do not err in the information they give us of the existence of things without us, when they are affected by them, we are

farther confirmed in this assurance, by other concurrent reasons.

§ 4. *First*, It is plain, those perceptions are produced in us by exterior causes affecting our senses; because those that want the organs of any sense, never can have the ideas belonging to that sense produced in their minds. This is too evident to be doubted; and therefore we cannot but be assured, that they come in by the organs of that sense, and no other way. The organs themselves, it is plain, do not produce them; for then the eyes of a man in the dark would produce colours, and his nose smell roses in the winter: but we see no-body gets the relish of a pine-apple, till he goes to the Indies where it is, and tastes it.

§ 5. *Secondly*, Because sometimes I find, that I cannot avoid the having those ideas produced in my mind: for though when my eyes are shut, or windows fast, I can at pleasure recal to my mind the ideas of *light*, or the *sun*, which former sensations had lodged in my memory; so I can at pleasure lay by that idea, and take into my view that of the smell of a rose, or taste of sugar. But if I turn my eyes at noon towards the sun, I cannot avoid the ideas which the light or sun then produces in me. So that there is a manifest difference between the ideas laid up in my memory, (over which, if they were there only, I should have constantly the same power to dispose of them, and lay them by at pleasure), and those which force themselves upon me, and I cannot avoid having. And therefore it must needs be some exterior cause, and the brisk acting of some objects without me, whose efficacy I cannot resist, that produces those ideas in my mind, whether I will or no. Besides, there is no-body who doth not

perceive the difference in himself, between contemplating the sun, as he hath the idea of it in his memory, and actually looking upon it: of which two, his perception is so distinct, that few of his ideas are more distinguishable one from another: and therefore he hath certain knowledge, that they are not both memory, or the actions of his mind, and fancies only within him; but that actual seeing hath a cause without.

§ 6. *Thirdly*, Add to this, that many of those ideas are produced in us with pain, which afterwards we remember without the least offence. Thus the pain of heat or cold, when the idea of it is revived in our minds, gives us no disturbance; which, when felt, was very troublesome, and is again, when actually repeated; which is occasioned by the disorder the external object causes in our bodies, when applied to it. And we remember the pains of *hunger*, *thirst*, or the *head-ach*, without any pain at all; which would either never disturb us, or else constantly do it, as often as we thought of it, were there nothing more but ideas floating in our minds, and appearances entertaining our fancies, without the real existence of things affecting us from abroad. The same may be said of pleasure, accompanying several actual sensations: and though mathematical demonstrations depend not upon sense, yet the examining them by diagrams, gives great credit to the evidence of our sight, and seems to give it a certainty approaching to that of demonstration itself. For it would be very strange, that a man should allow it for an undeniable truth, that two angles of a figure, which he measures by lines and angles of a diagram, should be bigger one than the other; and yet doubt of the existence of those

lines and angles, which, by looking on, he makes use of to measure that by.

§ 7. *Fourthly*, Our senses, in many cases, bear witness to the truth of each other's report, concerning the existence of sensible things without us. He that sees a fire, may, if he doubt whether it be any thing more than a bare fancy, feel it too; and be convinced, by putting his hand in it. Which certainly could never be put into such exquisite pain by a bare idea or phantom, unless that the pain be a fancy too, which yet he cannot, when the burn is well, by raising the idea of it, bring upon himself again.

Thus I see, whilst I write this, I can change the appearance of the paper; and by designing the letters, tell before-hand what new idea it shall exhibit the very next moment, barely by drawing my pen over it; which will neither appear, (let me fancy as much as I will), if my hands stand still; or though I move my pen, if my eyes be shut: nor when those characters are once made on the paper, can I chuse afterwards but see them as they are; that is, have the ideas of such letters as I have made. Whence it is manifest, that they are not barely the sport and play of my own imagination, when I find that the characters, that were made at the pleasure of my own thoughts, do not obey them; nor yet cease to be, whenever I shall fancy it, but continue to affect the senses constantly and regularly, according to the figures I made them. To which, if we will add, that the sight of those shall, from another man, draw such sounds as I before-hand design they shall stand for, there will be little reason left to doubt that these words I write do really exist without me, when they cause a long series of regular

sounds to affect my ears, which could not be the effect of my imagination, nor could my memory retain them in that order.

§ 8. But yet if, after all this, any one will be so sceptical, as to distrust his senses, and to affirm, that all we see and hear, feel and taste, think and do, during our whole being, is but the series and deluding appearances of a long dream, whereof there is no reality, and therefore will question the existence of all things, or our knowledge of any thing; I must desire him to consider, that if all be a dream, then he doth but dream that he makes the question; and so it is not much matter, that a waking man should answer him. But yet, if he pleases, he may dream that I make him this answer, that the certainty of things existing *in rerum natura*, when we have the testimony of our senses for it, is not only as great as our frame can attain to, but as our condition needs. For our faculties being suited, not to the full extent of being, nor to a perfect, clear, comprehensive knowledge of things free from all doubt and scruple, but to the preservation of us, in whom they are, and accommodated to the use of life; they serve to our purpose well enough, if they will but give us certain notice of those things, which are convenient or inconvenient to us. For he that sees a candle burning, and hath experimented the force of its flame, by putting his finger in it, will little doubt that this is something existing without him, which does him harm, and puts him to great pain; which is assurance enough when no man requires greater certainty, to govern his actions by, than what is as certain as his actions themselves. And if our dreamer pleases to try whether the glowing heat of a glass-furnace, be barely a wane

dering imagination in a drowsy man's fancy, by putting his hand into it, he may, perhaps, be wakened into a certainty greater than he could wish, that it is something more than bare imagination. So that this evidence is as great as we can desire, being as certain to us as our pleasure or pain, *i. e.* happiness or misery; beyond which we have no concernment, either of knowing or being. Such an assurance of the existence of things without us, is sufficient to direct us in the attaining the good, and avoiding the evil, which is caused by them, which is the important concernment we have of being made acquainted with them.

§ 9. In fine then, when our senses do actually convey into our understandings any idea, we cannot but be satisfied, that there doth something at that time really exist without us, which doth affect our senses, and by them give notice of itself to our apprehensive faculties, and actually produce that idea which we then perceive: and we cannot so far distrust their testimony, as to doubt that such collections of simple ideas, as we have observed by our senses to be united together, do really exist together. But this knowledge extends as far as the present testimony of our senses, employed about particular objects, that do then affect them, and no farther. For if I saw such a collection of simple ideas, as is wont to be called *man*, existing together one minute since, and am now alone; I cannot be certain that the same man exists now, since there is no necessary connection of his existence a minute since, with his existence now. By a thousand ways he may cease to be, since I had the testimony of my senses for his existence. And if I cannot be certain that the man I saw last to-day, is now in being; I can less be certain

that he is so, who hath been longer removed from my senses, and I have not seen since yesterday, or since the last year; and much less can I be certain of the existence of men that I never saw. And therefore, though it be highly probable that millions of men do now exist, yet whilst I am alone writing this, I have not that certainty of it, which we strictly call knowledge, though the great likelihood of it puts me past doubt, and it be reasonable for me to do several things upon the confidence that there are men (and men also of my acquaintance, with whom I have to do), now in the world: but this is but probability, not knowledge.

§ 10. Whereby yet we may observe how foolish and vain a thing it is for a man of a narrow knowledge, who having reason given him to judge of the different evidence and probability of things, and to be swayed accordingly; how vain, I say, it is to expect demonstration and certainty in things not capable of it, and refuse assent to very rational propositions, and act contrary to very plain and clear truths, because they cannot be made out so evident, as to surmount every the least (I will not say reason, but) pretence of doubting. He that in the ordinary affairs of life, would admit of nothing but direct plain demonstration, would be sure of nothing in this world, but of perishing quickly. The wholesomeness of his meat or drink, would not give him reason to venture on it: and I would fain know what it is he could do upon such grounds, as are capable of no doubt, no objection.

§ 11. As when our senses are actually employed about any object, we do know that it does exist; so by our memory, we may be assured, that

heretofore things that affected our senses have existed. And thus we have knowledge of the past existence of several things, whereof our senses having informed us, our memories still retain the ideas: and of this we are past all doubt, so long as we remember well. But this knowledge also reaches no farther than our senses have formerly assured us. Thus seeing water at this instant, it is an unquestionable truth to me, that water doth exist: and remembering that I saw it yesterday, it will also be always true; and as long as my memory retains it, always an undoubted proposition to me, that water did exist the tenth of July, 1688, as it will also be equally true, that a certain number of very fine colours did exist, which, at the same time, I saw upon a bubble of that water: but being now quite out of the sight both of the water and bubbles too, it is no more certainly known to me, that the water doth now exist, than that the bubbles or colours therein do so; it being no more necessary that water should exist to-day- because it existed yesterday; than that the colours or bubbles exist to-day, because they existed yesterday; though it be exceedingly much more probable, because water hath been observed to continue long in existence, but bubbles, and the colours on them, quickly cease to be.

§ 12. What ideas we have of spirits, and how we come by them, I have already shewn. But though we have those ideas in our minds, and know we have them there, the having the ideas of spirits does not make us know that any such things do exist without us, or that there are any finite spirits, or any other spiritual beings, but

the eternal GOD. We have ground from revelation, and several other reasons, to believe with assurance, that there are such creatures; but our senses not being able to discover them, we want the means of knowing their particular existences. For we can no more know that there are finite spirits really existing by the idea we have of such beings in our minds, than, by the ideas any one has of fairies, or centaurs, he can come to know, that things, answering those ideas, do really exist.

And therefore concerning the existence of finite spirits, as well as several other things, we must content ourselves with the evidence of faith; but universal certain propositions concerning this matter, are beyond our reach. For however true it may be, *v. g.* that all the intelligent spirits that GOD ever created, do still exist; yet it can never make a part of our certain knowledge. These, and the like propositions, we may assent to, as highly probable, but are not, I fear, in a state, capable of knowing. We are not then to put others upon demonstrating, nor ourselves upon search of universal certainty in all those matters wherein we are not capable of any other knowledge, but what our senses give us in this or that particular.

§ 13. By which it appears, that there are two sorts of propositions. 1. There is one sort of propositions concerning the existence of any thing answerable to such an idea; as having the idea of an *elephant*, *phoenix*, *motion*, or an *angle*, in my mind, the first and natural inquiry is, whether such a thing does any-where exist? And this knowledge is only of particulars. No existence of any thing without us, but only of GOD, can certainly be known farther than our senses inform us.

2. There is another sort of propositions, wherein is expressed the agreement or disagreement of our abstract ideas, and their dependence one on another. Such propositions may be universal and certain. So having the idea of GOD, and myself, of fear and obedience, I cannot but be sure that GOD is to be feared and obeyed by me: and this proposition will be certain concerning man in general, if I have made an abstract idea of such a species, whereof I am one particular. But yet this proposition, how certain soever, that men ought to fear and obey GOD, proves not to me the existence of men in the world, but will be true of all such creatures, whenever they do exist: which certainty of such general propositions, depends on the agreement or disagreement to be discovered in those abstract ideas.

§ 14. In the former case, our knowledge is the consequence of the existence of things producing ideas in our minds by our senses: in the latter, knowledge is the consequence of the ideas, be they what they will, that are in our minds producing there general certain propositions. Many of these are called *æternæ veritates*, and all of them indeed are so; not from being written all or any of them in the minds of all men, or that they were any of them propositions in any one's mind, till he having got the abstract ideas, joined or separated them by affirmation or negation. But wheresoever we can suppose such a creature as man is, endowed with such faculties, and thereby furnished with such ideas as we have, we must conclude he must needs, when he applies his thoughts to the consideration of his ideas, know the truth of certain propositions, that will arise from the agree-

ment or disagreement which he will perceive in his own ideas. Such propositions are therefore called eternal truths, not because they are eternal propositions actually formed, and antecedent to the understanding, that at any time makes them; nor because they are imprinted on the mind from any patterns that are any-where out of the mind, and existed before: but because being once made about abstract ideas, so as to be true, they will, whenever they can be supposed to be made again at any time past or to come, by a mind having those ideas, always actually be true. For names being supposed to stand perpetually for the same ideas; and the same ideas having immutably the same habitudes one to another; propositions concerning any abstract ideas, that are once true, must needs be eternal verities.

C H A P. XII.

Of the IMPROVEMENT of our KNOWLEDGE.

§ 1. *Knowledge is not from maxims.* § 2. *(The occasion of that opinion.)* § 3. *But from the comparing clear and distinct ideas.* § 4. *Dangerous to build upon precarious principles.* § 5. *This is no certain way to truth.* § 6. *But to compare clear complete ideas under steady names.* § 7. *The true method of advancing knowledge, is by considering our abstract ideas.* § 8. *By which morality also may be made clearer.* § 9. *But knowledge of bodies is to be improved only by experience.* § 10. *This may procure us convenience, not science.* § 11. *We are fitted for moral knowledge and natural improvements.* § 12. *But must beware of hypotheses, and wrong principles.* § 13. *The true use of hypotheses.* § 14. *Clear and distinct ideas with settled names, and the finding of those which shew their agreement or disagreement, are the ways to enlarge our knowledge.* § 15. *Mathematics an instance of it.*

§ 1. **I**T having been the common received opinion amongst men of letters, that maxims were the foundation of all knowledge; and that the sciences were each of them built upon certain *præcognita*, from whence the understanding was to take its rise, and by which it was to conduct itself, in its inquiries, into the matters belonging to that science; the beaten road of the schools has been to lay down in the beginning, one or more general propositions, as foundations where-

on to build the knowledge that was to be had of that subject. These doctrines thus laid down for foundations of any science, were called *principles*, as the beginnings from which we must set out, and look no farther backwards in our inquiries, as we have already observed.

§ 2. One thing which might probably give an occasion to this way of proceeding in other sciences, was, as I suppose, the good success it seemed to have in mathematics, wherein men being observed to attain a great certainty of knowledge, these sciences came by pre-eminence to be called *Μαθηματα* and *Μαθησις*, learning, or things learned, thoroughly learned, as having, of all others, the greatest certainty, clearness, and evidence, in them.

§ 3. But if any one will consider, he will, I guess, find that the great advancement and certainty of real knowledge, which men arrived to in these sciences, was not owing to the influence of these principles, nor derived from any peculiar advantage they received from two or three general maxims laid down in the beginning; but from the clear, distinct, complete ideas their thoughts were employed about, and the relation of equality and excess so clear between some of them, that they had an intuitive knowledge, and by that, a way to discover it in others, and this without the help of those maxims. For I ask, Is it not possible for a young lad to know that his whole body is bigger than his little finger, but by virtue of this axiom, that *the whole is bigger than a part*; nor be assured of it, till he has learned that maxim? Or cannot a country wench know, that having received a shilling from one that owes her three, and a shilling also from another that owes her

three, the remaining debts in each of their hands are equal? Cannot she know this, I say, without she fetch the certainty of it from this maxim, that *if you take equals from equals, the remainder will be equals*; a maxim which possibly she never heard or thought of? I desire any one to consider, from what has been elsewhere said, which is known first and clearest by most people, the particular instance, or the general rule; and which it is that gives life and birth to the other. These general rules are but the comparing our more general and abstract ideas, which are the workmanship of the mind, made, and names given to them, for the easier dispatch in its reasonings, and drawing into comprehensive terms, and short rules, its various and multiplied observations. But knowledge began in the mind, and was founded on particulars; though afterwards, perhaps, no notice be taken thereof; it being natural for the mind, (forward still to enlarge its knowledge), most attentively to lay up those general notions, and make the proper use of them, which is to disburden the memory of the cumbersome load of particulars. For I desire it may be considered what more certainty there is to a child, or any one, that his body, little finger and all, is bigger than his little finger alone, after you have given to his body the name *whole*, and to his little finger the name *part*, than he could have had before; or what new knowledge concerning his body, can these two relative terms give him, which he could not have without them? Could he not know that his body was bigger than his little finger, if his language were yet so imperfect, that he had no such relative terms as *whole* and *part*? I ask farther, when he has got these names, How is he more certain

that his body is a *whole*, and his little finger a *part*, than he was, or might be certain, before he learned those terms, that his body was bigger than his little finger? Any one may as reasonably doubt or deny, that his little finger is a part of his body, as that it is less than his body. And he that can doubt whether it be less, will as certainly doubt whether it be a part. So that the maxim, *The whole is bigger than a part*, can never be made use of to prove the little finger less than the body, but when it is useless, by being brought to convince of a truth which he knows already. For he that does not certainly know that any parcel of matter, with another parcel of matter joined to it, is bigger than either of them alone, will never be able to know it by the help of these two relative terms, *whole* and *part*, make of them what maxim you please.

§ 4. But be it in the mathematics as it will, whether it be clearer, that taking an inch from a black line of two inches, and an inch from a red line of two inches, the remaining parts of the two lines will be equal; or that *if you take equals from equals, the remainder will be equals*; which, I say, of these two is the clearer and first known, I leave to any one to determine, it not being material to my present occasion. That which I have here to do, is to inquire, whether if it be the readiest way to knowledge, to begin with general maxims, and build upon them, it be yet a safe way to take the principles, which are laid down in any other science, as unquestionable truth; and so receive them without examination, and adhere to them without suffering to be doubted of, because mathematicians have been so happy, or so fair, to use none but self-evident

and undeniable. If this be so, I know not what may not pass for truth in morality, what may not be introduced and proved in natural philosophy.

Let that principle of some of the philosophers, that all is matter, and that there is nothing else, be received for certain and indubitable, and it will be easy to be seen by the writings of some that have revived it again in our days, what consequences it will lead us into. Let any one, with Polemo, take the world; or, with the Stoics, the æther, or the sun; or, with Anaximenes, the air to be GOD; and what a divinity, religion, and worship, must we needs have! Nothing can be so dangerous as principles thus taken up without questioning or examination; especially if they be such as concern morality, which influence mens lives, and give a bias to all their actions. Who might not justly expect another kind of life in Aristippus, who placed happiness in bodily pleasure; and in Antisthenes, who made virtue sufficient to felicity? And he who, with Plato, shall place beatitude in the knowledge of GOD, will have his thoughts raised to other contemplations than those who look not beyond this spot of earth; and those perishing things which are to be had in it. He that, with Archelaus, shall lay it down as a principle, that right and wrong, honest and dishonest, are defined only by laws, and not by nature, will have other measures of moral rectitude and pravity, than those who take it for granted, that we are under obligations antecedent to all human constitutions.

§ 5. If therefore those that pass for principles are not certain, (which we must have some way to know, that we may be able to distinguish them from those that are doubtful), but are only made

so to us by our blind assent, we are liable to be misled by them ; and instead of being guided into truth, we shall, by principles, be only confirmed in mistake and error.

§ 6. But since the knowledge of the certainty of principles, as well as of all other truths, depends only upon the perception we have of the agreement or disagreement of our ideas, the way to improve our knowledge, is not, I am sure, blindly, and with an implicit faith, to receive and swallow principles ; but is, I think, to get and fix in our minds clear, distinct, and complete ideas, as far as they are to be had, and annex to them proper and constant names. And thus, perhaps, without any other principles, but barely considering those ideas, and by comparing them one with another, finding their agreement and disagreement, and their several relations and habitudes, we shall get more true and clear knowledge by the conduct of this one rule, than by taking up principles, and thereby putting our minds into the disposal of others.

§ 7. We must therefore, if we will proceed as reason advises, adapt our methods of inquiry to the nature of the ideas we examine, and the truth we search after. General and certain truths are only founded in the habitudes and relations of abstract ideas. A sagacious and methodical application of our thoughts, for the finding out these relations, is the only way to discover all that can be put with truth and certainty concerning them, into general propositions. By what steps we are to proceed in these, is to be learned in the schools of the mathematicians, who, from very plain and easy beginnings, by gentle degrees, and a continued chain of reasonings, proceed to the discove-

ry and demonstration of truths that appear at first sight beyond human capacity. The art of finding proofs, and the admirable methods they have invented for the singling out, and laying in order those intermediate ideas that demonstratively shew the equality or inequality of unapplicable quantities, is that which has carried them so far, and produced such wonderful and unexpected discoveries; but whether something like this, in respect of other ideas, as well as those of magnitude, may not in time be found out, I will not determine. This, I think, I may say, that if other ideas, that are the real, as well as nominal essences of their species, were pursued in the way familiar to mathematicians, they would carry our thoughts farther, and with greater evidence and clearness than possibly we are apt to imagine.

§ 8. This gave me the confidence to advance that conjecture which I suggest †, *viz.* that *morality is capable of demonstration*, as well as mathematics. For the ideas that ethics are conversant about, being all real essences, and such as I imagine have a discoverable connection and agreement one with another; so far as we can find their habitudes and relations, so far we shall be possessed of certain, real, and general truths: and I doubt not, but if a right method were taken, a great part of morality might be made out with that clearness, that could leave, to a considering man, no more reason to doubt, than he could have to doubt of the truth of propositions in mathematics, which have been demonstrated to him.

§ 9. In our search after the knowledge of substances, our want of ideas, that are suitable to

† Chap. iii.

such a way of proceeding, obliges us to a quite different method. We advance not here, as in the other, (where our abstract ideas are real, as well as nominal essences), by contemplating our ideas, and considering their relations and correspondencies; that helps us very little, for the reasons that in another place we have at large set down: By which, I think, it is evident, that substances afford matter of very little general knowledge; and the bare contemplation of their abstract ideas, will carry us but a very little way in the search of truth and certainty. What then are we to do for the improvement of our knowledge in substantial beings: Here we are to take a quite contrary course; the want of ideas of their real essences, sends us from our own thoughts, to the things themselves, as they exist. Experience here must teach me what reason cannot: and it is by trying alone, that I can certainly know, what other qualities co-exist with those of my complex idea, *v. g.* whether that yellow, heavy, fusible body I call *gold*, be malleable or no: which experience, (which way ever it prove in that particular body I examine), makes me not certain that it is so in all or any other yellow, heavy, fusible bodies, but that which I have tried. Because it is no consequence one way or the other from my complex idea; the necessity or inconsistency of malleability hath no visible connection with the combination of that colour, weight, and fusibility in any body. What I have said here of the nominal essence of gold, supposed to consist of a body of such a determinate colour, weight, and fusibility, will hold true, if malleableness, fixedness, and solubility in *aqua regia*, be added to it. Our reasonings

from these ideas will carry us but a little way in the certain discovery of the other properties in those masses of matter wherein all these are to be found. Because the other properties of such bodies depending not on these, but on that unknown real essence, on which these also depend, we cannot by them discover the rest; we can go no farther than the simple ideas of our nominal essence will carry us, which is very little beyond themselves; and so afford us but very sparingly any certain, universal, and useful truths. For, upon trial, having found that particular piece (and all others of that colour, weight, and fusibility, that I ever tried) malleable, that also makes now perhaps a part of my complex idea, part of my nominal essence of gold: whereby, though I make my complex idea, to which I affix the name *gold*, to consist of more simple ideas than before; yet still, it not containing the real essence of any species of bodies, it helps me not certainly to know (I say to know, perhaps it may to conjecture) the other remaining properties of that body, farther than they have a visible connection with some or all of the simple ideas that make up my nominal essence. For example, I cannot be certain from this complex idea, whether gold be fixed or no; because, as before, there is no necessary connection or inconsistency to be discovered betwixt a complex idea of a body, yellow, heavy, fusible, malleable, betwixt these, I say, and fixedness: so that I may certainly know, that in whatsoever body these are found, there fixedness is sure to be. Here again, for assurance, I must apply myself to experience; as far as that reaches, I may have certain knowledge, but no farther.

§ 10. I deny not, but a man accustomed to ra-

tional and regular experiments, shall be able to see farther into the nature of bodies, and guess right-er at their yet unknown properties, than one that is a stranger to them : but yet, as I have said, this is but judgment and opinion, not knowledge and certainty. This way of getting and improving our knowledge in substances only by experience and history, which is all that the weakness of our faculties in this state of mediocrity, which we are in in this world, can attain to, makes me suspect that natural philosophy is not capable of being made a science. We are able, I imagine, to reach very little general knowledge concerning the species of bodies, and their several properties. Experiments and historical observations we may have, from which we may draw advantages of ease and health, and thereby increase our stock of conveniencies for this life ; but beyond this, I fear, our talents reach not, nor are our faculties, as I guess, able to advance.

§ 11. From whence it is obvious to conclude, that since our faculties are not fitted to penetrate into the internal fabric and real essences of bodies, but yet plainly discover to us the being of a God, and the knowledge of ourselves, enough to lead us into a full and clear discovery of our duty, and great concernment, it will become us, as rational creatures, to employ those faculties we have, about what they are most adapted to, and follow the direction of nature, where it seems to point us out the way. For it is rational to conclude, that our proper employment lies in those inquiries, and in that sort of knowledge which is most suited to our natural capacities, and carries in it our greatest interest, *i. e.* the condition of our eternal estate. Hence I think I may conclude, that

morality is the proper science and business of mankind in general, (who are both concerned and fitted to search out their *summum bonum*), as several arts, conversant about several parts of nature, are the lot and private talent of particular men, for the common use of human life, and their own particular subsistence in this world. Of what consequence the discovery of one natural body and its properties may be to human life, the whole great continent of America is a convincing instance; whose ignorance in useful arts, and want of the greatest part of the conveniencies of life, in a country that abounded with all sorts of natural plenty, I think, may be attributed to their ignorance of what was to be found in a very ordinary despicable stone, I mean, the mineral of iron. And whatever we think of our parts or improvements in this part of the world, where knowledge and plenty seem to vie each with other; yet to any one that will seriously reflect on it, I suppose it will appear past doubt, that were the use of iron lost among us, we should in a few ages be unavoidably reduced to the wants and ignorance of the ancient savage Americans, whose natural endowments and provisions come no way short of those of the most flourishing and polite nations; so that he who first made known the use of that contemptible mineral, may be truly stiled the father of arts, and author of plenty.

§ 12. I would not therefore be thought to disesteem, or dissuade the study of nature. I readily agree the contemplation of his works gives us occasion to admire, revere, and glorify their Author: and if rightly directed, may be of greater benefit to mankind, than the monuments of exemplary charity, that have, at so great charge,

been raised by the founders of hospitals and almshouses. He that first invented printing, discovered the use of the compass, or made public the virtue and right use of Kin Kina, did more for the propagation of knowledge, for the supplying and increase of useful commodities, and saved more from the grave, than those who built colleges, work-houses, and hospitals. All that I would say, is, that we should not be too forwardly possessed with the opinion or expectation of knowledge, where it is not to be had, or by ways that will not attain it: that we should not take doubtful systems for complete sciences; nor unintelligible notions for scientific demonstrations. In the knowledge of bodies, we must be content to glean what we can from particular experiments; since we cannot, from a discovery of their real essences, grasp at a time whole sheaves; and in bundles comprehend the nature and properties of whole species together. Where our inquiry is concerning co-existence, or repugnancy to co-exist, which by contemplation of our ideas we cannot discover; there experience, observation, and natural history, must give us by our senses, and by retail, an insight into corporeal substances. The knowledge of bodies we must get by our senses, warily employed in taking notice of their qualities and operations on one another: and what we hope to know of separate spirits in this world, we must, I think, expect only from revelation. He that shall consider how little general maxims, precarious principles, and hypotheses laid down at pleasure, have promoted true knowledge, or helped to satisfy the inquiries of rational men after real improvements; how little, I say, the setting out at that end has, for many ages together,

advanced mens progress towards the knowledge of natural philosophy, will think we have reason to thank those, who in this latter age have taken another course, and have trod out to us, though not an easier way to learned ignorance, yet a surer way to profitable knowledge.

§ 13. Not that we may not, to explain any phænomena of nature, make use of any probable hypothesis whatsoever. Hypotheses, if they are well made, are at least great helps to the memory, and often direct us to new discoveries. But my meaning is, that we should not take up any one too hastily, (which the mind, that would always penetrate into the causes of things, and have principles to rest on, is very apt to do), till we have very well examined particulars, and made several experiments in that thing which we would explain by our hypothesis, and see whether it will agree to them all; whether our principles will carry us quite through, and not be as inconsistent with one phænomenon of nature, as they seem to accommodate, and explain another. And at least that we take care that the name of *principles* deceive us not, nor impose on us, by making us receive that for an unquestionable truth, which is really at best but a very doubtful conjecture, such as are most (I had almost said all) of the hypotheses in natural philosophy.

§ 14. But whether natural philosophy be capable of certainty or no, the ways to enlarge our knowledge, as far as we are capable, seem to me, in short, to be these two:

1st, The first is to get and settle in our minds determined ideas of those things, whereof we have general or specific names; at least of so many of them as we would consider and improve our

knowledge in, or reason about. And if they be specific ideas of substances, we should endeavour also to make them as complete as we can, whereby I mean, that we should put together as many simple ideas, as being constantly observed to co-exist, may perfectly determine the species; and each of those simple ideas, which are the ingredients of our complex ones, should be clear and distinct in our minds: for it being evident, that our knowledge cannot exceed our ideas, as far as they are either imperfect, confused, or obscure, we cannot expect to have certain, perfect, or clear knowledge.

2dly, The other is the art of finding out those intermediate ideas, which may shew us the agreement or repugnancy of other ideas, which cannot be immediately compared.

§ 15. That these two (and not the relying on maxims, and drawing consequences from some general propositions) are the right methods of improving our knowledge in the ideas of other modes, besides those of quantity, the consideration of mathematical knowledge will easily inform us. Where first we shall find, that he that has not a perfect and clear idea of those angles or figures, of which he desires to know any thing, is utterly thereby incapable of any knowledge about them. Suppose but a man not to have a perfect exact idea of a *right angle*, a *scalenum*, or *trapezium*, and there is nothing more certain, than that he will in vain seek any demonstration about them. Farther, it is evident, that it was not the influence of those maxims which are taken for principles in mathematics, that hath led the masters of that science into those wonderful discoveries they have made. Let a man of good parts know

all the maxims generally made use of in mathematics never so perfectly, and contemplate their extent and consequences as much as he pleases, he will, by their assistance, I suppose, scarce ever come to know, that *the square of the hypotenuse in a right-angled triangle, is equal to the squares of the two other sides*. The knowledge that *the whole is equal to all its parts, and if you take equals from equals, the remainder will be equal, &c.* helped him not, I presume, to this demonstration: and a man may, I think, pore long enough on those axioms, without ever seeing one jot the more of mathematical truths. They have been discovered by the thoughts otherwise applied; the mind had other objects, other views before it, far different from those maxims, when it first got the knowledge of such kind of truths in mathematics, which men, well enough acquainted with those received axioms, but ignorant of their method who first made these demonstrations, can never sufficiently admire. And who knows what methods, to enlarge our knowledge in other parts of science, may hereafter be invented, answering that of algebra in mathematics, which so readily finds out ideas of quantities to measure others by, whose equality or proportion we could otherwise very hardly, or perhaps never come to know?

C H A P. XIII.

Some farther CONSIDERATIONS concerning our KNOWLEDGE.

§ 1. *Our knowledge partly necessary, partly voluntary.* § 2. *The application voluntary; but we know as things are, not as we please.* § 3. *Instance, in numbers; in natural religion.*

§ 1. **O**UR knowledge, as in other things, so in this, has a great conformity with our sight, that it is neither *wholly necessary*, nor *wholly voluntary*. If our knowledge were altogether necessary, all mens knowledge would not only be alike, but every man would know all that is knowable; and if it were wholly voluntary, some men so little regard or value it, that they would have extreme little, or none at all. Men that have senses cannot chuse but receive some ideas by them, and if they have memory, they cannot but retain some of them; and if they have any distinguishing faculty, cannot but perceive the agreement or disagreement of some of them one with another; as he that has eyes, if he will open them by day, cannot but see some objects, and perceive a difference in them. But though a man with his eyes open in the sight, cannot but see; yet there be certain objects, which he may chuse whether he will turn his eyes to; there may be in his reach a book containing pictures, and discourses capable to delight or instruct him, which yet he may ne-

ver have the will to open, never take the pains to look into.

§ 2. There is also another thing in a man's power, and that is, though he turns his eyes sometimes towards an object, yet he may chuse whether he will curiously survey it, and with an intent application endeavour to observe accurately all that is visible in it. But yet, what he does see, he cannot see otherwise than he does. It depends not on his will to see that black which appears yellow; nor to persuade himself, that what actually scalds him, feels cold: the earth will not appear painted with flowers, nor the fields covered with verdure, whenever he has a mind to it: in the cold winter, he cannot help seeing it white and hoary, if he will look abroad. Just thus is it with our understanding; all that is voluntary in our knowledge, is the employing, or withholding any of our faculties from this or that sort of objects, and a more or less accurate survey of them; but they being employed, our will hath no power to determine the knowledge of the mind one way or other; that is done only by the objects themselves, as far as they are clearly discovered. And therefore, as far as mens senses are conversant about external objects, the mind cannot but receive those ideas which are presented by them, and be informed of the existence of things without; and so far as mens thoughts converse with their own determined ideas, they cannot but, in some measure, observe the agreement or disagreement that is to be found amongst some of them, which is so far knowledge: and if they have names for those ideas which they have thus considered, they must needs be assured of the truth of those propositions, which express that agreement or

disagreement they perceive in them, and be undoubtedly convinced of those truths. For what a man sees, he cannot but see, and what he perceives, he cannot but know that he perceives.

§ 3. Thus he that has got the ideas of numbers, and hath taken the pains to compare *one*, *two* and *three*, to *six*, cannot chuse but know that they are equal. He that hath got the idea of a triangle, and found the ways to measure its angles, and their magnitudes, is certain that its three angles are equal to two right ones: and can as little doubt of that, as of this truth, that *it is impossible for the same thing to be, and not to be.*

He also that hath the idea of an intelligent, but frail and weak being, made by and depending on another, who is eternal, omnipotent, perfectly wise and good, will as certainly know that man is to honour, fear, and obey GOD, as that the sun shines when he sees it. For if he hath but the ideas of two such beings in his mind, and will turn his thoughts that way, and consider them, he will as certainly find, that the inferior, finite, and dependent, is under an obligation to obey the Supreme and Infinite, as he is certain to find, that *three*, *four*, and *seven*, are less than *fifteen*, if he will consider and compute those numbers; nor can he be surer in a clear morning that the sun is risen, if he will but open his eyes, and turn them that way. But yet these truths being never so certain, never so clear, he may be ignorant of either, or all of them, who will never take the pains to employ his faculties as he should, to inform himself about them.

C H A P. XIV.

Of JUDGMENT.

§ 1. *Our knowledge being short, we want something else.* § 2. *What use to be made of this twilight state.* § 3. *Judgment supplies the want of knowledge.* § 4. *Judgment is the presuming things to be so, without perceiving it.*

§ 1. **T**HE understanding faculties being given to man, not barely for speculation, but also for the conduct of his life, man would be at a great loss, if he had nothing to direct him, but what has the certainty of true knowledge. For that being very short and scanty, as we have seen, he would be often utterly in the dark, and, in most of the actions of his life, perfectly at a stand, had he nothing to guide him, in the absence of clear and certain knowledge. He that will not eat, till he has demonstration that it will nourish him; he that will not stir, till he infallibly knows the business he goes about will succeed, will have little else to do, but to sit still and perish.

§ 2. Therefore, as God has set some things in broad day-light, as he has given us some certain knowledge, though limited to a few things in comparison, probably, as a taste of what intellectual creatures are capable of, to excite in us a desire and endeavour after a better state; so, in the greatest part of our concerns, he has afforded us only the twilight, -as I may so say, of probability, suitable, I presume, to that state of medio-

crity and probationership he has been pleased to place us in here; wherein, to check our overconfidence and presumption, we might, by every day's experience, be made sensible of our short-sightedness, and liableness to error; the sense whereof might be a constant admonition to us, to spend the days of this our pilgrimage with industry and care, in the search, and following of that way, which might lead us to a state of greater perfection. It being highly rational to think, even were revelation silent in the case, that as men employ those talents God has given them here, they shall accordingly receive their rewards at the close of the day, when their sun shall set, and night shall put an end to their labours.

§ 3. The faculty which God has given man to supply the want of clear and certain knowledge, in cases where that cannot be had, is judgment: whereby the mind takes its ideas to agree or disagree; or, which is the same, any proposition to be true or false, without perceiving a demonstrative evidence in the proofs. The mind sometimes exercises this judgment out of necessity, where demonstrative proofs, and certain knowledge, are not to be had; and sometimes out of laziness, unskilfulness, or haste, even where demonstrative and certain proofs are to be had. Men often slay not warily to examine the agreement or disagreement of two ideas, which they are desirous or concerned to know; but either incapable of such attention as is requisite in a long train of gradations, or impatient of delay, lightly cast their eyes on, or wholly pass by the proofs; and so, without making out the demonstration, determine of the agreement or disagreement of two ideas, as it were by a view of them as they are at a distance,

and take it to be the one or the other, as seems most likely to them upon such a loose survey. This faculty of the mind, when it is exercised immediately about things, is called *judgment*; when about truths delivered in words, is most commonly called *assent* or *dissent*: which being the most usual way wherein the mind has occasion to employ this faculty, I shall, under these terms, treat of it as least liable in our language to equivocation.

§ 4. Thus the mind has two faculties, conversant about truth and falsehood.

(1.) *Knowledge*, whereby it certainly perceives, and is undoubtedly satisfied of the agreement or disagreement of any ideas.

(2.) *Judgment*, which is the putting ideas together, or separating them from one another in the mind, when their certain agreement or disagreement is not perceived, but presumed to be so; which is, as the word imports, taken to be so, before it certainly appears. And if it so unites or separates them, as in reality things are, it is *right judgment*.

C H A P. XV.

Of PROBABILITY.

§ 1. *Probability is the appearance of agreement upon fallible proofs.* § 2. *It is to supply the want of knowledge.* § 3. *Being that which makes us presume things to be true, before we know them to be so.* § 4. *The grounds of probability are two; conformity with our own experience, or the testimony of others experience.* § 5. *In this, all the agreements pro and con, ought to be examined, before we come to a judgment.* § 6. *They being capable of great variety.*

§ 1. **A**S demonstration is the shewing the agreement or disagreement of two ideas, by the intervention of one or more proofs, which have a constant, immutable, and visible connection one with another; so probability is nothing but the appearance of such an agreement or disagreement, by the intervention of proofs, whose connection is not constant and immutable, or at least is not perceived to be so, but is, or appears, for the most part to be so, and is enough to induce the mind to judge the proposition to be true or false, rather than the contrary. For example: in the demonstration of it, a man perceives the certain immutable connection there is of equality between the three angles of a triangle, and those intermediate ones, which are made use of to shew their equality to two right ones; and so, by an intuitive knowledge of the agreement or disagreement of the intermediate ideas in each step of the progress, the

whole series is continued with an evidence, which clearly shews the agreement or disagreement of those three angles in equality to two right ones : and thus he has certain knowledge that it is so. But another man, who never took the pains to observe the demonstration, hearing a mathematician, a man of credit, affirm the three angles of a triangle to be equal to two right ones, assents to it, *i. e.* receives it for true. In which case, the foundation of his assent is the probability of the thing, the proof being such as for the most part carries truth with it : the man, on whose testimony he receives it, not being wont to affirm any thing contrary to, or besides his knowledge, especially in matters of this kind. So that that which causes his assent to this proposition, that *the three angles of a triangle are equal to two right ones*, that which makes him take these ideas to agree, without knowing them to do so, is the wonted veracity of the speaker in other cases, or his supposed veracity in this.

§ 2. Our knowledge, as has been shewn, being very narrow, and we not happy enough to find certain truth in every thing which we have occasion to consider, most of the propositions we think, reason, discourse, nay, act upon, are such as we cannot have undoubted knowledge of the truth ; yet some of them border so near upon certainty, that we make no doubt at all about them, but assent to them as firmly, and act, according to that assent, as resolutely as if they were infallibly demonstrated, and that our knowledge of them was perfect and certain. But there being degrees herein, from the very neighbourhood of certainty and demonstration, quite down to improbability and unlikeliness, even to the confines of impossi-

bility ; and also degrees of *assent* from full *assurance* and *confidence*, quite down to *conjecture*, *doubt*, and *distrust* ; I shall come now, (having, as I think, found out the bounds of human knowledge and certainty), in the next place, to consider the several degrees and grounds of probability, and assent or faith.

§ 3. *Probability* is likeliness to be true, the very notation of the word signifying such a proposition, for which there be arguments or proofs, to make it pass, or be received for true. The entertainment the mind gives this sort of propositions, is called *belief*, *assent*, or *opinion*, which is the admitting or receiving any proposition for true, upon arguments, or proofs that are found to persuade us to receive it as true, without certain knowledge that it is so. And herein lies the difference between *probability* and *certainty*, *faith* and *knowledge*, that in all the parts of knowledge, there is intuition ; each immediate idea, each step, has its visible and certain connection ; in belief not so. That which makes me believe, is something extraneous to the thing I believe ; something not evidently joined on both sides to, and so not manifestly shewing the agreement or disagreement of those ideas that are under consideration.

§ 4. *Probability* then, being to supply the defect of our knowledge, and to guide us where that fails, is always conversant about propositions whereof we have no certainty, but only some inducements to receive them for true. The grounds of it are, in short, these two following :

First, The conformity of any thing with our own knowledge, observation, and experience.

Secondly, The testimony of others, vouching

their observation and experience. In the testimony of others, is to be considered, 1. The number. 2. The integrity. 3. The skill of the witnesses. 4. The design of the author, where it is a testimony out of a book cited. 5. The consistency of the parts and circumstances of the relation. 6. Contrary testimonies.

§ 5. Probability wanting that intuitive evidence which infallibly determines the understanding, and produces certain knowledge, the mind, if it would proceed rationally, ought to examine all the grounds of probability, and see how they make, more or less, for or against any proposition, before it assents to, or dissents from it, and, upon a due balancing the whole, reject or receive it, with a more or less firm assent, proportionably to the preponderancy of the greater grounds of probability on one side or the other. For example :

If I myself see a man walk on the ice, it is past probability, it is knowledge : but if another tells me he saw a man in England, in the midst of a sharp winter, walk upon water hardened with cold ; this has so great conformity with what is usually observed to happen, that I am disposed, by the nature of the thing itself, to assent to it, unless some manifest suspicion attend the relation of that matter of fact. But if the same thing be told to one born between the tropics, who never saw nor heard of any such thing before, there the whole probability relies on testimony : and as the relators are more in number, and of more credit, and have no interest to speak contrary to the truth ; so that matter of fact is like to find more or less belief. Though to a man, whose experience has been always quite contrary, and has never heard of any thing like it, the most

untainted credit of a witness will scarce be able to find belief. As it happened to a Dutch ambassador, who entertaining the king of Siam with the particularities of Holland, which he was inquisitive after, amongst other things told him, that the water in his country would sometimes, in cold weather, be so hard that men walked upon it, and that it would bear an elephant, if he were there: to which the king replied, *Hitherto I have believed the strange things you have told me, because I look upon you as a sober fair man; but now I am sure you lie.*

§ 6. Upon these grounds depends the probability of any proposition: and as the conformity of our knowledge, as the certainty of observations, as the frequency and constancy of experience, and the number and credibility of testimonies, do more or less agree or disagree with it, so is any proposition, in itself, more or less probable. There is another, I confess, which though by itself it be no true ground of probability, yet is often made use of for one, by which men most commonly regulate their assent, and upon which they pin their faith more than any thing else, and that is *the opinion of others*: though there cannot be a more dangerous thing to rely on, nor more likely to mislead one, since there is much more falsehood and error among men, than truth and knowledge. And if the opinions and persuasions of others, whom we know and think well of, be a ground of assent, men have reason to be Heathens in Japan, Mahometans in Turkey, Papists in Spain, Protestants in England, and Lutherans in Sweden. But of this wrong ground of assent, I shall have occasion to speak more at large in another place.

C H A P XVI.

Of the DEGREES of ASSENT.

§ 1. *Our assent ought to be regulated by the grounds of probability.* § 2. *These cannot always be actually in view, and then we must content ourselves with the remembrance that we once saw ground for such a degree of assent.* § 3. *The ill consequence of this, if our former judgment were not rightly made.* § 4. *The right use of it, mutual charity and forbearance.* § 5. *Probability is either of matter of fact or speculation.* § 6. *The concurrent experience of all other men with ours, produces assurance approaching to knowledge.* § 7. *Unquestionable testimony and experience for the most part produce confidence.* § 8. *Fair testimony, and the nature of the thing indifferent, produces also confident belief.* § 9. *Experiences and testimonies clashing, infinitely vary the degrees of probability.* § 10. *Traditional testimonies, the farther removed, the less their proof.* § 11. *Yet history is of great use.* § 12. *In things which sense cannot discover, analogy is the great rule of probability.* § 13. *One case where contrary experience lessens not the testimony.* § 14. *The bare testimony of revelation, is the highest certainty.*

§ 1. **T**HE grounds of probability we have laid down in the foregoing chapter, as they are the foundations on which our assent is built, so are they also the measure whereby its severat

degrees are, or ought to be regulated : only we are to take notice, that whatever grounds of probability there may be, they yet operate no farther on the mind, which searches after truth, and endeavours to judge right, than they appear, at least in the first judgment or search that the mind makes. I confess, in the opinions men have, and firmly stick to, in the world, their assent is not always from an actual view of the reasons that at first prevailed with them ; it being in many cases almost impossible, and in most very hard, even for those who have very admirable memories, to retain all the proofs, which, upon a due examination, made them embrace that side of the question. It suffices that they have once, with care and fairness, sifted the matter as far as they could ; and that they have searched into all the particulars that they could imagine, to give any light to the question, and with the best of their skill, cast up the account upon the whole evidence : and thus having once found on which side the probability appeared to them, after as full and exact an inquiry as they can make, they lay up the conclusion in their memories, as a truth they have discovered ; and for the future they remain satisfied with the testimony of their memories, that this is the opinion, that, by the proofs they have once seen of it, deserves such a degree of their assent as they afford it.

§ 2. This is all that the greatest part of men are capable of doing, in regulating their opinions and judgments, unless a man will exact of them, either to retain distinctly in their memories all the proofs concerning any probable truth, and that too in the same order, and regular deduction of consequences, in which they have formerly placed

or seen them; which sometimes is enough to fill a large volume on one single question: or else they must require a man, for every opinion that he embraces, every day to examine the proofs; both which are impossible. It is unavoidable therefore, that the memory be relied on in the case, and that men be persuaded of several opinions, whereof the proofs are not actually in their thoughts; nay, which perhaps they are not able actually to recal. Without this, the greatest part of men must be either very sceptics, or change every moment, and yield themselves up to whoever, having lately studied the question, offers them arguments; which, for want of memory, they are not able presently to answer.

§ 3. I cannot but own, that mens sticking to their past judgment, and adhering firmly to conclusions formerly made, is often the cause of great obstinacy in error and mistake. But the fault is not that they rely on their memories for what they have before well judged, but because they judged before they had well examined. May we not find a great number (not to say the greatest part) of men, that think they have formed right judgments of several matters, and that for no other reason, but because they never thought otherwise? that imagine themselves to have judged right, only because they never questioned, never examined their own opinions? Which is indeed to think they judged right, because they never judged at all: and yet these, of all men, hold their opinions with the greatest stiffness; those being generally the most fierce and firm in their tenets, who have least examined them. What we once know, we are certain is so; and we may be secure that there are no latent proofs undiscovered, which

may overturn our knowledge, or bring it in doubt. But in matters of probability, it is not in every case we can be sure that we have all the particulars before us, that any way concern the question, and that there is no evidence behind, and yet unseen, which may cast the probability on the other side, and outweigh all that at present seems to preponderate with us. Who almost is there that hath the leisure, patience, and means to collect together all the proofs concerning most of the opinions he has, so as safely to conclude, that he hath a clear and full view, and that there is no more to be alledged for his better information: and yet we are forced to determine ourselves on the one side or the other. The conduct of our lives, and the management of our great concerns, will not bear delay; for those depend, for the most part, on the determination of our judgment in points wherein we are not capable of certain and demonstrative knowledge, and wherein it is necessary for us to embrace the one side or the other.

§ 4. Since therefore it is unavoidable to the greatest part of men, if not all, to have several opinions, without certain and indubitable proofs of their truths; and it carries too great an imputation of ignorance, lightness, or folly, for men to quit and renounce their former tenets presently upon the offer of an argument which they cannot immediately answer, and shew the insufficiency of: it would methinks become all men to maintain peace, and the common offices of humanity and friendship, in the diversity of opinions, since we cannot reasonably expect, that any one should readily and obsequiously quit his own opinion, and embrace ours, with a blind resignation to an au-

thority which the understanding of man acknowledges not. For however it may often mistake, it can own no other guide but reason, nor blindly submit to the will and dictates of another. If he, you would bring over to your sentiments, be one that examines before he assents, you must give him leave at his leisure to go over the account again, and recalling what is out of his mind, examine all the particulars, to see on which side the advantage lies; and if he will not think our arguments of weight enough to engage him anew in so much pains, it is but what we do often ourselves in the like case; and we should take it amiss, if others should prescribe to us what points we should study: and if he be one who takes his opinions upon trust, how can we imagine that he should renounce those tenets which time and custom have so settled in his mind, that he thinks them self-evident, and of an unquestionable certainty; or which he takes to be impressions he has received from GOD himself, or from men sent by him? How can we expect, I say, that opinions thus settled, should be given up to the arguments or authority of a stranger or adversary, especially if there be any suspicion of interest or design, as there never fails to be where men find themselves ill treated? We should do well to commiserate our mutual ignorance, and endeavour to remove it in all the gentle and fair ways of information, and not instantly treat others ill, as obstinate and perverse, because they will not renounce their own, and receive our opinions, or at least those we would force upon them, when it is more than probable that we are no less obstinate in not embracing some of theirs. For where is the man that has incontestible evidence of the truth of all

that he holds, or of the falsehood of all he condemns; or can say, that he has examined, to the bottom, all his own, or other mens opinions? The necessity of believing, without knowledge, nay, often upon very slight grounds, in this fleeting state of action and blindness we are in, should make us more busy and careful to inform ourselves, than constrain others; at least those who have not thoroughly examined to the bottom all their own tenets, must confess they are unfit to prescribe to others, and are unreasonable in imposing that as truth on other mens belief, which they themselves have not searched into, nor weighed the arguments of probability on which they should receive or reject it. Those who have fairly and truly examined, and are thereby got past doubt in all the doctrines they profess, and govern themselves by, would have a juster pretence to require others to follow them; but these are so few in number, and find so little reason to be magisterial in their opinions, that nothing insolent and imperious is to be expected from them: and there is reason to think, that if men were better instructed themselves, they would be less imposing on others.

§ 5. But to return to the grounds of assent, and the several degrees of it, we are to take notice, that the propositions we receive upon inducements of probability, are of two sorts; either concerning some particular existence, or, as it is usually termed, matter of fact, which falling under observation, is capable of human testimony; or else concerning things, which being beyond the discovery of our senses, are not capable of any such testimony.

§ 6. Concerning the first of these, *viz.* particular matter of fact.

First, Where any particular thing, consonant to the constant observation of ourselves and others in the like case, comes attested by the concurrent reports of all that mention it, we receive it as easily, and build as firmly upon it, as if it were certain knowledge : and we reason and act thereupon with as little doubt, as if it were perfect demonstration. Thus, if all Englishmen, who have occasion to mention it, should affirm that it froze in England the last winter, or that there were swallows seen there in the summer, I think a man could almost as little doubt of it, as that seven and four are eleven. The first therefore, and highest degree of probability, is, when the general consent of all men, in all ages, as far as it can be known, concurs with a man's constant and never-failing experience in like cases, to confirm the truth of any particular matter of fact attested by fair witnesses; such are all the stated constitutions and properties of bodies, and the regular proceedings of causes and effects in the ordinary course of nature. This we call an argument from the nature of things themselves : for what our own and other mens constant observation has found always to be after the same manner, that we with reason conclude to be the effects of steady and regular causes, though they come not within the reach of our knowledge. Thus, that fire warmed a man, made lead fluid, and changed the colour or consistency in wood or charcoal ; that iron sunk in water, and swam in quicksilver : these, and the like propositions about particular facts, being agreeable to our constant experience, as often as we have to do with these matters, and being ge-

nerally spoke of, (when mentioned by others), as things found constantly to be so, and therefore not so much as controverted by any body, we are put past doubt, that a relation affirming any such thing to have been, or any predication that it will happen again in the same manner, is very true. These probabilities rise so near to certainty, that they govern our thoughts as absolutely, and influence all our actions as fully, as the most evident demonstration; and in what concerns us, we make little or no difference between them and certain knowledge. Our belief thus grounded, rises to assurance.

§ 7. *Secondly*, The next degree of probability is, when I find, by my own experience, and the agreement of all others that mention it, a thing to be for the most part so: and that the particular instance of it is attested by many and undoubted witnesses, *v. g.* history giving us such an account of men in all ages, and my own experience, as far as I had an opportunity to observe, confirming it, that most men prefer their private advantage to the public. If all historians that write of Tiberius, say that Tiberius did so, it is extremely probable. And in this case, our assent has a sufficient foundation to raise itself to a degree which we may call *confidence*.

§ 8. *Thirdly*, In things that happen indifferently, as that a bird should fly this or that way, that it should thunder on a man's right or left hand, &c. when any particular matter of fact is vouched by the concurrent testimony of unsuspected witnesses, there our assent is also unavoidable. Thus, that there is such a city in Italy as Rome; that about 1700 years ago, there lived in it a man called Julius Cæsar; that he was a general, and

that he won a battle against another called Pompey; this, though in the nature of the thing there be nothing for nor against it, yet being related by historians of credit, and contradicted by no one writer, a man cannot avoid believing it, and can as little doubt of it, as he does of the being and actions of his own acquaintance, whereof he himself is a witness.

§ 9. Thus far the matter goes easy enough. Probability upon such grounds carries so much evidence with it, that it naturally determines the judgment, and leaves us as little liberty to believe or disbelieve, as a demonstration does, whether we will know or be ignorant. The difficulty is, when testimonies contradict common experience, and the reports of history and witnesses clash with the ordinary course of nature, or with one another; there it is, where diligence, attention, and exactness, is required to form a right judgment, and to proportion the assent to the different evidence and probability of the thing, which rises and falls according as those two foundations of credibility, *viz.* common observation in like cases, and particular testimonies in that particular instance, favour or contradict it. These are liable to so great variety of contrary observations, circumstances, reports, different qualifications, tempers, designs, oversights, &c. of the reporters, that it is impossible to reduce to precise rules the various degrees wherein men give their assent. This only may be said in general, that as the arguments and proofs, *pro* and *con*, upon due examination, nicely weighing every particular circumstance, shall to any one appear, upon the whole matter, in a greater or less degree, to preponderate on either side, so they are fitted to pro-

duce in the mind such different entertainment, as we call belief, conjecture, guess, doubt, wavering, distrust, disbelief, &c.

§ 10. This is what concerns assent in matters wherein testimony is made use of; concerning which, I think it may not be amiss to take notice of a rule observed in the law of England, which is, that though the attested copy of a record be good proof, yet the copy of a copy, never so well attested, and by never so credible witnesses, will not be admitted as a proof in judicature. This is so generally approved as reasonable, and suited to the wisdom and caution to be used in our inquiry after material truths, that I never yet heard of any one that blamed it. This practice, if it be allowable in the decisions of right and wrong, carries this observation along with it, *viz.* that any testimony, the farther off it is from the original truth, the less force and proof it has. The being and existence of the thing itself, is what I call the original truth. A credible man vouching his knowledge of it, is a good proof: but if another equally credible do witness it from his report, the testimony is weaker; and a third that attests the hearsay of an hearsay, is yet less considerable. So that in traditional truths, each remove weakens the force of the proof; and the more hands the tradition has successively passed through, the less strength and evidence does it receive from them. This I thought necessary to be taken notice of, because I find among some men the quite contrary commonly practised, who look on opinions to gain force by growing older; and what a thousand years since would not, to a rational man, contemporary with the first voucher, have appeared at all probable, is now urged as certain beyond

all question, only because several have since, from him, said it one after another. Upon this ground, propositions evidently false or doubtful enough in their first beginning, come by an inverted rule of probability to pass for authentic truths; and those which found or deserved little credit from the mouths of their first authors, are thought to grow venerable by age, and are urged as undeniable.

§ 11. I would not be thought here to lessen the credit and use of history; it is all the light we have in many cases; and we receive from it a great part of the useful truths we have, with a convincing evidence. I think nothing more valuable than the records of antiquity: I wish we had more of them, and more uncorrupted. But this truth itself forces me to say, that no probability can arise higher than its first original. What has no other evidence than the single testimony of one only witness, must stand or fall by his only testimony, whether good, bad, or indifferent; and though cited afterwards by hundreds of others, one after another, is so far from receiving any strength thereby, that it is only the weaker. Passion, interest, inadvertency, mistake of his meaning, and a thousand odd reasons or capricios, mens minds are acted by, (impossible to be discovered), may make one man quote another man's words or meaning wrong. He that has but ever so little examined the citations of writers, cannot doubt how little credit the quotations deserve, where the originals are wanting; and consequently how much less quotations of quotations can be relied on. This is certain, that what in one age was affirmed upon slight grounds, can never after come to be more valid in future ages, by being often repeated. But the farther still it is from the

original, the less valid it is, and has always less force in the mouth or writing of him that last made use of it, than in his from whom he received it.

§ 12. The probabilities we have hitherto mentioned, are only such as concern matter of fact, and such things as are capable of observation and testimony. There remains that other sort, concerning which men entertain opinions with variety of assent, though the things be such, that falling not under the reach of our senses, they are not capable of testimony. Such are, 1. The existence, nature, and operations of finite immaterial beings, without us; as spirits, angels, devils, &c. or the existence of material beings; which either for the smallness in themselves, or remoteness from us, our senses cannot take notice of, as whether there be any plants, animals, and intelligent inhabitants in the planets, and other mansions of the vast universe. 2. Concerning the manner of operation in most parts of the works of nature; wherein, though we see the sensible effects, yet their causes are unknown, and we perceive not the ways and manner how they are produced. We see animals are generated, nourished, and move: the loadstone draws iron; and the parts of a candle successively melting, turn into flame, and give us both light and heat. These, and the like effects, we see and know; but the causes that operate, and the manner they are produced in, we can only guess, and probably conjecture. For these, and the like, coming not within the scrutiny of human senses, cannot be examined by them, or be attested by any body, and therefore can appear more or less probable, only as they more or less agree to truths that are

established in our minds, and as they hold proportion to other parts of our knowledge and observation. Analogy in these matters is the only help we have, and it is from that alone we draw all our grounds of probability. Thus observing that the bare rubbing of two bodies violently one upon another, produces heat, and very often fire itself, we have reason to think, that what we call heat and fire, consists in a violent agitation of the imperceptible minute parts of the burning matter: observing likewise that the different refractions of pellucid bodies produce in our eyes the different appearances of several colours, and also that the different ranging and laying the superficial parts of several bodies, as of velvet, watered silk, &c. does the like, we think it probable that the colour and shining of bodies, is in them nothing but the different arrangement and refraction of their minute and insensible parts. Thus finding in all parts of the creation, that fall under human observation, that there is a gradual connection of one with another, without any great or discernible gaps between, in all that great variety of things we see in the world, which are so closely linked together, that, in the several ranks of beings, it is not easy to discover the bounds betwixt them, we have reason to be persuaded, that by such gentle steps things ascend upwards in degrees of perfection. It is an hard matter to say where sensible and rational begin, and where insensible and irrational end: and who is there quick-sighted enough to determine precisely, which is the lowest species of living things, and which the first of those which have no life? Things, as far as we can observe, lessen and augment, as the quantity does in a regular cone, where, though there be

a manifest odds betwixt the bigness of the diameter at remote distance, yet the difference between the upper and under, where they touch one another, is hardly discernible. The difference is exceeding great between some men, and some animals; but if we will compare the understanding and abilities of some men, and some brutes, we shall find so little difference, that it will be hard to say, that that of the man is either clearer or larger. Observing, I say, such gradual and gentle descents downwards in those parts of the creation that are beneath man, the rule of analogy may make it probable, that it is so also in things above us and our observation; and that there are several ranks of intelligent beings, excelling us in several degrees of perfection, ascending upwards towards the infinite perfection of the Creator, by gentle steps and differences, that are every one at no great distance from the next to it. This sort of probability, which is the best conduct of rational experiments, and the rise of hypothesis, has also its use and influence; and a wary reasoning from analogy, leads us often into the discovery of truths, and useful productions, which would otherwise lie concealed.

§ 13. Though the common experience, and the ordinary course of things, have justly a mighty influence on the minds of men, to make them give or refuse credit to any thing proposed to their belief; yet there is one case wherein the strangeness of the fact lessens not the assent to a fair testimony given of it. For where such supernatural events are suitable to ends aimed at by him, who has the power to change the course of nature, there, under such circumstances, they may be the fitter to procure belief, by how much the more

they are beyond, or contrary to ordinary observation. This is the proper case of miracles, which, well attested, do not only find credit themselves, but give it also to other truths, which need such confirmation.

§ 14. Besides those we have hitherto mentioned, there is one sort of propositions that challenge the highest degree of our assent upon bare testimony, whether the thing proposed agree or disagree with common experience, and the ordinary course of things, or no. The reason whereof is, because the testimony is of such an one as cannot deceive, nor be deceived, and that is of GOD himself. This carries with it assurance beyond doubt, evidence beyond exception. This is called by a peculiar name, *revelation*; and our assent to it, *faith*: which as absolutely determines our minds, and as perfectly excludes all wavering, as our knowledge itself; and we may as well doubt of our own being, as we can, whether any revelation from GOD be true. So that faith is a settled and sure principle of assent and assurance, and leaves no manner of room for doubt or hesitation. Only we must be sure, that it be a divine revelation, and that we understand it right; else we shall expose ourselves to all the extravagancy of enthusiasm, and all the error of wrong principles, if we have faith and assurance in what is not divine revelation. And therefore, in those cases, our assent can be rationally no higher than the evidence of its being a revelation, and that this is the meaning of the expressions it is delivered in. If the evidence of its being a revelation, or that this is its true sense, be only on probable proofs, our assent can reach no higher than an assurance or diffidence, arising from the more or less apparent

probability of the proofs. But of faith, and the precedency it ought to have before other arguments of persuasion, I shall speak more hereafter, where I treat of it, as it is ordinarily placed, in contradistinction to reason; though in truth it be nothing else but an assent founded on the highest reason.

C H A P. XVII.

Of REASON.

§ 1. *Various significations of the word reason.* § 2. *Wherein reasoning consists.* § 3. *Its four parts.* § 4. *Syllogism not the great instrument of reason.* § 5. *Helps little in demonstration, less in probability.* § 6. *Serves not to increase our knowledge, but fence with it.* § 7. *Other helps should be sought.* § 8. *We reason about particulars.* § 9. *First, Reason fails us for want of ideas.* § 10. *Secondly, Because of obscure and imperfect ideas.* § 11. *Thirdly, For want of intermediate ideas.* § 12. *Fourthly, Because of wrong principles.* § 13. *Fifthly, Because of doubtful terms.* § 14. *Our highest degree of knowledge is intuitive, without reasoning.* § 15. *The next is demonstration by reasoning.* § 16. *To supply the narrowness of this, we have nothing but judgment upon probable reasoning.* § 17. *Intuition, demonstration, judgment.* § 18. *Consequences of words, and consequences of ideas.* § 19. *Four sorts of arguments. First, Ad verecundiam.* § 20. *Secondly, Ad ignorantiam.* § 21. *Thirdly, Ad hominem.* § 22. *Fourthly, Ad judicium.* § 23. *Above, contrary, and according to reason.* § 24. *Reason and faith not opposite.*

§ I. **T**HE word REASON, in the English language, has different significations: sometimes it is taken for true and clear principles; sometimes for clear and fair deductions from those

principles; and sometimes for the cause, and particularly the final cause. But the consideration I shall have of it here, is in a signification different from all these; and that is, as it stands for a faculty in man, that faculty whereby man is supposed to be distinguished from beasts, and wherein it is evident he much surpasses them.

§ 2. If general knowledge, as has been shewn, consists in a perception of the agreement or disagreement of our own ideas, and the knowledge of the existence of all things without us, except only of a God, (whose existence every man may certainly know and demonstrate to himself from his own existence), be had only by our senses: what room then is there for the exercise of any other faculty, but outward sense, and inward perception? What need is there of reason? Very much; both for the enlargement of our knowledge, and regulating our assent: for it hath to do both in knowledge and opinion, and is necessary and assisting to all our other intellectual faculties, and indeed contains two of them, *viz.* sagacity and illation. By the one, it finds out, and by the other, it so orders the intermediate ideas, as to discover what connection there is in each link of the chain, whereby the extremes are held together; and thereby, as it were, to draw into view the truth sought for, which is that we call *illation* or *inference*, and consists in nothing but the perception of the connection there is between the ideas, in each step of the deduction, whereby the mind comes to see either the certain agreement or disagreement of any two ideas, as in demonstration, in which it arrives at knowledge; or their probable connection, on which it gives or with-holds its assent, as in opinion.

Sense and intuition reach but a very little way. The greatest part of our knowledge depends upon deductions and intermediate ideas: and in those cases, where we are fain to substitute assent instead of knowledge, and take propositions for true, without being certain they are so, we have need to find out, examine, and compare the grounds of their probability. In both these cases, the faculty which finds out the means, and rightly applies them to discover certainty in the one, and probability in the other, is that which we call *reason*. For as reason perceives the necessary and indubitable connection of all the ideas or proofs one to another, in each step of any demonstration that produces knowledge: so it likewise perceives the probable connection of all the ideas or proofs one to another, in every step of a discourse to which it will think assent due. This is the lowest degree of that which can be truly called reason. For where the mind does not perceive this probable connection; where it does not discern whether there be any such connection or no, there mens opinions are not the product of judgment, or the consequence of reason, but the effects of chance and hazard of a mind floating at all adventures, without choice, and without direction.

§ 3. So that we may in reason consider these four degrees; the first and highest, is the discovering and finding out of proofs; the second, the regular and methodical disposition of them, and laying them in a clear and fit order, to make their connection and force be plainly and easily perceived; the third, is the perceiving their connection; and the fourth, a making a right conclusion. These several degrees may be observed in any mathematical demonstration: it being one thing to

perceive the connection of each part, as the demonstration is made by another; another to perceive the dependence of the conclusion on all the parts; a third to make out a demonstration clearly and neatly one's self; and something different from all these, to have first found out these intermediate ideas or proofs by which it is made.

§ 4. There is one thing more, which I shall desire to be considered concerning reason: and that is, whether *sylogism*, as is generally thought, be the proper instrument of it, and the usefulest way of exercising this faculty. The causes I have to doubt, are these:

First, Because *sylogism* serves our reason but in one only of the forementioned parts of it; and that is, to shew the connection of the proofs in any one instance, and no more; but in this it is of no great use, since the mind can perceive such connection where it really is, as easily, nay, perhaps, better, without it.

If we will observe the actings of our own minds, we shall find that we reason best and clearest, when we only observe the connection of the proof, without reducing our thoughts to any rule of *sylogism*. And therefore we may take notice, that there are many men that reason exceeding clear and rightly, who know not how to make a *sylogism*. He that will look into many parts of Asia and America, will find men reason there, perhaps as acutely as himself, who yet never heard of a *sylogism*, nor can reduce any one argument to those forms: and I believe scarce any one ever makes *sylogisms* in reasoning within himself. Indeed *sylogism* is made use of on occasion to discover a fallacy hid in a rhetorical flourish, or cunningly wrapped up in a smooth period; and strip-

ping an absurdity of the cover of wit and good language, shew it in its naked deformity. But the weakness or fallacy of such a loose discourse, it shews, by the artificial form it is put into, only to those who have thoroughly studied mode and figure, and have so examined the many ways that three propositions may be put together, as to know which of them does certainly conclude right, and which not, and upon what grounds it is that they do so. All who have so far considered syllogism, as to see the reason why, in three propositions laid together in one form, the conclusion will be certainly right, but in another, not certainly so, I grant are certain of the conclusions they draw from the premisses in the allowed modes and figures. But they who have not so far looked into those forms, are not sure, by virtue of syllogism, that the conclusion certainly follows from the premisses ; they only take it to be so by an implicit faith in their teachers, and a confidence in those forms of argumentation ; but this is still but believing, not being certain. Now, if of all mankind, those who can make syllogisms, are extremely few in comparison of those who cannot, and if of those few who have been taught logic, there is but a very small number who do any more than believe that syllogisms, in the allowed modes and figures, do conclude right, without knowing certainly that they do so ; if syllogisms must be taken for the only proper instrument of reason and means of knowledge, it will follow, that before Aristotle there was not one man that did, or could know any thing by reason ; and that since the invention of syllogisms, there is not one of ten thousand that doth.

But GOD has not been so sparing to men to

make them barely two-legged creatures, and left it to Aristotle to make them rational, *i. e.* those few of them that he could get, so to examine the grounds of syllogisms, as to see, that in above threescore ways, that three propositions may be laid together, there are but about fourteen wherein one may be sure that the conclusion is right, and upon what ground it is, that in these few the conclusion is certain, and in the other not. GOD has been more bountiful to mankind than so; he has given them a mind that can reason, without being instructed in methods of syllogizing: the understanding is not taught to reason by these rules; it has a native faculty to perceive the coherence or incoherence of its ideas, and can range them right, without any such perplexing repetitions. I say not this any way to lessen Aristotle, whom I look on as one of the greatest men amongst the antients; whose large views, acuteness, and penetration of thought, and strength of judgment, few have equalled: and who in this very invention of forms of argumentation, wherein the conclusion may be shewn to be rightly inferred, did great service against those who were not ashamed to deny any thing. And I readily own, that all right reasoning may be reduced to his forms of syllogism. But yet, I think, without any diminution to him, I may truly say, that they are not the only, nor the best way of reasoning, for the leading of those into truth who are willing to find it, and desire to make the best use they may of their reason, for the attainment of knowledge. And he himself, it is plain, found out some forms to be conclusive, and others not; not by the forms themselves, but by the original way of knowledge, *i. e.* by the visible agreement of ideas.

Tell a country gentlewoman, that the wind is south-west, and the weather louring, and like to rain, and she will easily understand it is not safe for her to go abroad thin clad, in such a day, after a fever: she clearly sees the probable connection of all these, *viz.* south-west wind, and clouds, rain, wetting, taking cold, relapse, and danger of death, without tying them together in those artificial and cumbersome fetters of several syllogisms, that clog and hinder the mind, which proceeds from one part to another quicker and clearer without them: and the probability which she easily perceives in things thus in their native state would be quite lost, if this argument were managed learnedly, and proposed in mode and figure. For it very often confounds the connection: and, I think, every one will perceive in mathematical demonstrations, that the knowledge gained thereby, comes shortest and clearest without syllogisms.

Inference is looked on as the great act of the rational faculty, and so it is, when it is rightly made; but the mind, either very desirous to enlarge its knowledge, or very apt to favour the sentiments it has once imbibed, is very forward to make inferences, and therefore often makes too much haste, before it perceives the connection of the ideas that must hold the extremes together.

To infer, is nothing but by virtue of one proposition laid down as true, to draw in another as true, *i.e.* to see or suppose such a connection of the two ideas of the inferred proposition. *V.g.* let this be the proposition laid down, *Men shall be punished in another world*, and from thence be inferred this other, *Then men can determine themselves*. The question now is to know, whether the mind has made this in-

ference right, or no. If it has made it, by finding out the intermediate ideas, and taken a view of the connection of them, placed in a due order, it has proceeded rationally, and made a right inference. If it has done it without such a view, it has not so much made an inference that will hold, or an inference of right reason, as shewn a willingness to have it be, or be taken for such. But in either case is it syllogism that discovered those ideas, or shewed the connection of them? for they must be both found out, and the connection every-where perceived, before they can rationally be made use of in syllogism; unless it can be said, that any idea, without considering what connection it hath with the two other, whose agreement should be shewn by it, will do well enough in a syllogism, and may be taken at a venture for the *medius terminus*, to prove any conclusion. But this no-body will say, because it is by virtue of the perceived agreement of the intermediate idea with the extremes, that the extremes are concluded to agree, and therefore each intermediate idea must be such, as in the whole chain hath a visible connection with those two it is placed between, or else thereby the conclusion cannot be inferred or drawn in; for where-ever any link of the chain is loose, and without connection, there the whole strength of it is lost, and it hath no force to infer or draw in any thing. In the instance above mentioned, what is it shews the force of the inference, and consequently the reasonableness of it, but a view of the connection of all the intermediate ideas that draw in the conclusion or proposition inferred; v. g. *Men shall be punished—God the punisher,—just punishment,—the punished guilty,—could have done otherwise,—freedom,—self-determination*; by which

chain of ideas thus visibly linked together in train, *i. e.* each intermediate idea agreeing on each side with those two it is immediately placed between, the ideas of men and self-determination appear to be connected, *i. e.* this proposition, *Men can determine themselves*, is drawn in, or inferred from this, *that they shall be punished in the other world*. For here the mind seeing the connection there is between the *idea of mens punishment in the other world*, and the *idea of God punishing*; between *God punishing*, and the *justice of the punishment*; between *justice of punishment and guilt*; between *guilt and a power to do otherwise*; between a *power to do otherwise and freedom*, and between *freedom and self-determination*, sees the connection between *men and self-determination*.

Now I ask, whether the connection of the extremes be not more clearly seen in this simple and natural disposition, than in the perplexed repetitions, and jumble of five or six syllogisms? I must beg pardon for calling it jumble, till somebody shall put these ideas into so many syllogisms, and then say, that they are less jumbled, and their connection more visible, when they are transposed and repeated, and spun out to a greater length in artificial forms, than in that short, natural, plain order they are laid down in here, wherein every one may see it, and wherein they must be seen, before they can be put into a train of syllogisms. For the natural order of the connecting ideas must direct the order of the syllogisms, and a man must see the connection of each intermediate idea with those that it connects, before he can with reason make use of it in a syllogism. And when all those syllogisms are made, neither those that are, nor those that are not logicians, will see the force of

the argumentation, *i. e.* the connection of the extremes one jot the better. [For those that are not men of art, not knowing the true forms of syllogism, nor the reasons of them, cannot know whether they are made in right and conclusive modes and figures or no, and so are not at all helped by the forms they are put into, though by them the natural order, wherein the mind could judge of their respective connection, being disturbed, renders the illation much more uncertain than without them.] And as for logicians themselves, they see the connection of each intermediate idea with those it stands between, on which the force of the inference depends, as well before as after the syllogism is made, or else they do not see it at all. For a syllogism neither shews nor strengthens the connection of any two ideas immediately put together, but only by the connection seen in them shews what connection the extremes have one with another. But what connection the intermediate has with either of the extremes in that syllogism, that no syllogism does or can shew. That the mind only doth, or can perceive as they stand there in that juxtaposition only by its own view, to which the syllogistical form it happens to be in gives no help or light at all; it only shews, that if the intermediate idea agrees with those it is on both sides immediately applied to, then those two remote ones, or, as they are called, extremes, do certainly agree, and therefore the immediate connection of each idea to that which it is applied to on each side, on which the force of the reasoning depends, is as well seen before as after the syllogism is made, or else he that makes the syllogism could never see it at all. This, as has been already observed, is seen only by the eye, or the

perceptive faculty of the mind, taking a view of them laid together, in a juxta-position, which view of any two it has equally, whenever they are laid together in any proposition, whether that proposition be placed as a *major* or a *minor*, in a syllogism or no.

Of what use then are syllogisms? I answer, their chief and main use is in the schools, where men are allowed without shame to deny the agreement of ideas, that do manifestly agree; or out of the schools, to those who from thence have learned without shame to deny the connection of ideas, which even to themselves is visible. But to an ingenuous searcher after truth, who has no other aim but to find it, there is no need of any such form to force the allowing of the inference: the truth and reasonableness of it is better seen in ranging of the ideas in a simple and plain order. And hence it is that men, in their own inquiries after truth, never use syllogisms to convince themselves, [or in teaching others to instruct willing learners]. Because before they can put them into a syllogism, they must see the connection that is between the intermediate idea, and the two other ideas it is set between and applied to, to shew their agreement; and when they see that, they see whether the inference be good or no, and so syllogism comes too late to settle it. For to make use again of the former instance, I ask whether the mind, considering the idea of justice, placed as an intermediate idea between the punishment of men, and the guilt of the punished, (and, till it does so consider it, the mind cannot make use of it as a *medius terminus*), does not as plainly see the force and strength of the inference, as when it is formed into syllogism? To shew it

in a very plain and easy example; let *animal* be the intermediate idea, or *medius terminus*; that the mind makes use of to shew the connection of *homo* and *vivens*; I ask, whether the mind does not more readily and plainly see that connection in the simple and proper position of the connecting idea in the middle; thus,

Homo———*Animal*———*Vivens*;

than in this perplexed one,

Animal———*Vivens*———*Homo*———*Animal*?

Which is the position these ideas have in a syllogism, to shew the connection between *homo* and *vivens* by the intervention of *animal*.

Indeed, syllogism is thought to be of necessary use, even to the lovers of truth, to shew them the fallacies that are often concealed in florid, witty, or involved discourses. But that this is a mistake, will appear, if we consider that the reason why sometimes men, who sincerely aim at truth, are imposed upon by such loose, and, as they are called, rhetorical discourses, is, that their fancies being struck with some lively metaphorical representations, they neglect to observe, or do not easily perceive what are the true ideas upon which the inference depends. Now, to shew such men the weakness of such an argumentation, there needs no more but to strip it of the superfluous ideas, which, blended and confounded with those on which the inference depends, seem to shew a connection where there is none, or at least do hinder the discovery of the want of it; and then to lay the naked ideas on which the force of the argumentation depends, in their due order, in which

position the mind taking a view of them, sees what connection they have, and so is able to judge of the inference, without any need of a syllogism at all.

I grant that *mode* and *figure* is commonly made use of in such cases, as if the detection of the incoherence of such loose discourses were wholly owing to the syllogistical form; and so I myself formerly thought, till, upon a stricter examination, I now find, that laying the intermediate ideas naked in their due order, shews the incoherence of the argumentation better than syllogism; not only as subjecting each link of the chain to the immediate view of the mind in its proper place, whereby its connection is best observed; but also because syllogism shews the incoherence only to those, who are not one of ten thousand, who perfectly understand mode and figure, and the reason upon which those forms are established: whereas a due and orderly placing of the ideas, upon which the inference is made, makes every one, whether logician or not logician, who understands the terms, and hath the faculty to perceive the agreement or disagreement of such ideas, (without which, in or out of syllogism, he cannot perceive the strength or weakness, coherence or incoherence of the discourse), see the want of connection in the argumentation, and the absurdity of the inference.

And thus I have known a man unskilful in syllogism, who, at first hearing, could perceive the weakness and inconclusiveness of a long artificial and plausible discourse, wherewith others, better skilled in syllogism, have been misled; and I believe there are few of my readers who do not know such. And indeed, if it were not so, the

debates of most princes councils, and the business of assemblies, would be in danger to be mismanaged, since those who are relied upon, and have usually a great stroke in them, are not always such, who have the good luck to be perfectly knowing in the forms of syllogism, or expert in mode and figure. And if syllogism were the only, or so much as the surest way to detect the fallacies of artificial discourses, I do not think that all mankind, even princes, in matters that concern their crowns and dignities, are so much in love with falsehood and mistake, that they would every-where have neglected to bring syllogism into the debates of moment, or thought it ridiculous so much as to offer them in affairs of consequence; a plain evidence to me, that men of parts and penetration, who were not idly to dispute at their ease, but were to act according to the result of their debates, and often pay for their mistakes with their heads and fortunes, found those scholastic forms were of little use to discover truth or fallacy, whilst both the one and the other might be shewn, and better shewn without them, to those who would not refuse to see, what was visibly shewn them.

Secondly, Another reason that makes me doubt whether syllogism be the only proper instrument of reason in the discovery of truth, is, that of whatever use mode and figure is pretended to be in the laying open of fallacy, which has been above considered, those scholastic forms of discourse are not less liable to fallacies, than the plainer ways of argumentation; and for this I appeal to common observation, which has always found these artificial methods of reasoning more adapted to catch and entangle the mind, than to instruct and inform the understanding. And hence it is,

that men, even when they are baffled and silenced in this scholastic way, are seldom or never convinced, and so brought over to the conquering side; they perhaps acknowledge their adversary to be the more skilful disputant, but rest nevertheless persuaded of the truth on their side; and go away, worsted as they are, with the same opinion they brought with them, which they could not do, if this way of argumentation carried light and conviction with it, and made men see where the truth lay; and therefore syllogism has been thought more proper for the attaining victory in dispute, than for the discovery or confirmation of truth, in fair inquiries: and if it be certain that fallacies can be couched in syllogism, as it cannot be denied, it must be something else, and not syllogism, that must discover them.

I have had experience how ready some men are, when all the use which they have been wont to ascribe to any thing is not allowed, to cry out, that I am for laying it wholly aside. But to prevent such unjust and groundless imputations, I tell them, that I am not for taking away any helps to the understanding, in the attainment of knowledge. And if men skilled in, and used to syllogisms, find them assisting to their reason in the discovery of truth, I think they ought to make use of them. All that I aim at is, that they should not ascribe more to these forms than belongs to them; and think, that men have no use, or not so full a use of their reasoning faculty, without them. Some eyes want spectacles to see things clearly and distinctly; but let not those that use them therefore say no-body can see clearly without them: those who do so will be thought in favour with art (which perhaps they are beholden

to) a little too much to depress and discredit nature. Reason, by its own penetration, where it is strong and exercised, usually sees quicker and clearer without syllogism. If use of those spectacles has so dimmed its sight, that it cannot without them see consequences or inconsequences in argumentation, I am not so unreasonable as to be against the using them. Every one knows what best fits his own sight: but let him not thence conclude all in the dark, who use not just the same helps that he finds a need of.

§ 5. But however it be in knowledge, I think I may truly say, it is of far less, or no use at all in probabilities. For the assent there being to be determined by the preponderancy, after a due weighing of all the proofs, with all circumstances on both sides, nothing is so unfit to assist the mind in that, as syllogism; which running away with one assumed probability, or one topical argument, pursues that till it has led the mind quite out of sight of the thing under consideration: and forcing it upon some remote difficulty, holds it fast there entangled, perhaps, and as it were manacled in the chain of syllogisms, without allowing it the liberty, much less affording it the helps requisite to shew on which side, all things considered, is the greater probability.

§ 6. But let it help us, as perhaps may be said, in convincing men of their errors and mistakes, (and yet I would fain see the man that was forced out of his opinion by dint of syllogism); yet still it fails our reason in that part, which, if not its highest perfection, is yet certainly its hardest task, and that which we most need its help in; and that is, the finding out of proofs, and making new discoveries. The rules of syllogism serve not

to furnish the mind with those intermediate ideas that may shew the connection of remote ones. This way of reasoning discovers no new proofs, but is the art of marshalling and ranging the old ones we have already. The forty-seventh proposition of the first book of Euclid, is very true, but the discovery of it, I think, not owing to any rules of common logic. A man knows first, and then he is able to prove syllogistically: so that syllogism comes after knowledge, and then a man has little or no need of it. But it is chiefly by the finding out those ideas that shew the connection of distant ones, that our stock of knowledge is increased, and that useful arts and sciences are advanced. Syllogism, at best, is but the art of fencing with the little knowledge we have, without making any addition to it. And if a man should employ his reason all this way, he will not do much otherwise than he, who having got some iron out of the bowels of the earth, should have it beaten up all into swords, and put it into his servants hands to fence with, and bang one another. Had the king of Spain employed the hands of his people, and his Spanish iron so, he had brought to light but little of that treasure that lay so long hid in the dark entrails of America. And I am apt to think, that he who shall employ all the force of his reason only in brandishing of syllogisms, will discover very little of that mass of knowledge which lies yet concealed in the secret recesses of nature; and which, I am apt to think, native rustic reason, as it formerly has done, is likelier to open a way to, and add to the common stock of mankind, rather than any scholastic proceeding by the strict rules of mode and figure.

§ 7. I doubt not, nevertheless, but there are

ways to be found to assist our reason in this most useful part; and this the judicious Hooker encourages me to say, who, in his Eccl. Pol. l. i. § 6. speaks thus: *If there might be added the right helps of true art and learning, (which helps I must plainly confess, this age of the world, carrying the name of a learned age, doth neither much know, nor generally regard), there would undoubtedly be almost as much difference in maturity of judgment between men therewith inured, and that which now men are, as between men that are now, and innocents.* I do not pretend to have found or discovered here any of those *right helps of art* this great man of deep thought mentions; but this is plain, that syllogism; and the logic now in use, which were as well known in his days, can be none of those he means. It is sufficient for me, if by a discourse perhaps something out of the way, I am sure as to me wholly new and unborrowed, I shall have given an occasion to others to cast about for new discoveries, and to seek in their own thoughts for those right helps of art which will scarce be found, I fear, by those who servilely confine themselves to the rules and dictates of others. For beaten tracts lead these sort of cattle, (as an observing Roman calls them), whose thoughts reach only to imitation, *non quo eundum est, sed quo itur.* But I can be bold to say, that this age is adorned with some men of that strength of judgment, and largeness of comprehension, that if they would employ their thoughts on this subject, could open new and undiscovered ways to the advancement of knowledge.

§ 8. Having here had an occasion to speak of syllogism in general, and the use of it in reasoning, and the improvement of our knowledge, it is fit, before I leave this subject, to take notice of one

manifest mistake in the rules of syllogism; viz. that no syllogistical reasoning can be right and conclusive, but what has, at least, one general proposition in it. As if we could not reason, and have knowledge about particulars. Whereas, in truth, the matter rightly considered, the immediate object of all our reasoning and knowledge, is nothing but particulars. Every man's reasoning and knowledge is only about the ideas existing in his own mind, which are truly, every one of them particular existences; and our knowledge and reasoning about other things, is only as they correspond with those our particular ideas. So that the perception of the agreement or disagreement of our particular ideas, is the whole and utmost of all our knowledge. Universality is but accidental to it, and consists only in this, that the particular ideas about which it is, are such, as more than one particular thing can correspond with, and be represented by. But the perception of the agreement or disagreement of any two ideas, and consequently our knowledge, is equally clear and certain, whether either, or both, or neither of those ideas, be capable of representing more real beings than one, or no. One thing more I crave leave to offer about syllogism, before I leave it, viz. May one not, upon just ground, inquire whether the form syllogism now has, is that which in reason it ought to have? For the *medius terminus* being to join the extremes, i. e. the intermediate idea, by its intervention, to shew the agreement or disagreement of the two in question, would not the position of the *medius terminus* be more natural, and shew the agreement or disagreement of the extremes clearer and better, if it were placed in the middle between them? which might

be easily done by transposing the propositions, and making the *medius terminus* the predicate of the first, and the subject of the second. As thus,

Omnis homo est animal,
Omne animal est vivens,
Ergo, omnis homo est vivens.

Omne corpus est extensum et solidum,
Nullum extensum et solidum est pura extensio,
Ergo, corpus non est pura extensio.

I need not trouble my reader with instances in syllogisms, whose conclusions are particular. The same reason holds for the same form in them, as well as in the general.

§ 9. Reason, though it penetrates into the depths of the sea and earth, elevates our thoughts as high as the stars, and leads us through the vast spaces, and large rooms of this mighty fabric; yet it comes far short of the real extent of even corporeal being; and there are many instances wherein it fails us: As,

First, It perfectly fails us where our ideas fail. It neither does, nor can extend itself farther than they do. And therefore where-ever we have no ideas, our reasoning stops, and we are at an end of our reckoning; and if at any time we reason about words, which do not stand for any ideas, it is only about those sounds, and nothing else.

§ 10. *Secondly*, Our reason is often puzzled, and at a loss, because of the obscurity, confusion, or imperfection of the ideas it is employed about; and there we are involved in difficulties and contradictions. Thus, not having any perfect idea of the least extension of matter, nor of infinity, we are at a loss about the divisibility of matter; but having perfect, clear, and distinct ideas of number, our rea-

son meets with none of those inextricable difficulties in numbers, nor finds itself involved in any contradictions about them. Thus we having but imperfect ideas of the operations of our minds, and of the beginning of motion or thought, how the mind produces either of them in us, and much imperfecter yet of the operation of God, run into great difficulties about free created agents, which reason cannot well extricate itself out of.

§ 11. *Thirdly*, Our reason is often at a stand, because it perceives not those ideas, which could serve to shew the certain or probable agreement or disagreement of any other two ideas: and in this some mens faculties far out-go others. Till algebra, that great instrument and instance of human sagacity, was discovered, men with amazement looked on several of the demonstrations of ancient mathematicians, and could scarce forbear to think the finding several of those proofs to be something more than human.

§ 12. *Fourthly*, The mind, by proceeding upon false principles, is often engaged in absurdities and difficulties, brought into straits and contradictions, without knowing how to free itself: and in that case it is in vain to implore the help of reason, unless it be to discover the falsehood, and reject the influence of those wrong principles. Reason is so far from clearing the difficulties which the building upon false foundations brings a man into, that if he will pursue it, it entangles him the more, and engages him deeper in perplexities.

§ 13. *Fifthly*, As obscure and imperfect ideas often involve our reason; so upon the same ground, do dubious words and uncertain signs, often in discourses and arguings, when not warily attended to, puzzle mens reason, and bring them to a

nonplus: but these two latter are our fault, and not the fault of reason. But yet the consequences of them are nevertheless obvious; and the perplexities or errors they fill mens minds with, are every-where observable.

§ 14. Some of the ideas that are in the mind, are so there, that they can be by themselves immediately compared one with another: and in these the mind is able to perceive, that they agree or disagree, as clearly as that it has them. Thus the mind perceives, that an arch of a circle is less than the whole circle, as clearly as it does the idea of a circle; and this therefore, as has been said, I call *intuitive knowledge*, which is certain, beyond all doubt, and needs no probation, nor can have any; this being the highest of all human certainty. In this consists the evidence of all those maxims which no-body has any doubt about, but every man (does not, as is said, only assent to, but) knows to be true, as soon as ever they are proposed to his understanding. In the discovery of, and assent to these truths, there is no use of the discursive faculty, no need of reasoning, but they are known by a superior, and higher degree of evidence. And such, if I may guess at things unknown, I am apt to think, that angels have now, and the spirits of just men made perfect, shall have, in a future state, of thousands of things, which now either wholly escape our apprehensions, or which, our short-sighted reason having got some faint glimpse of, we, in the dark, grope after.

§ 15. But though we have here and there a little of this clear light, some sparks of bright knowledge; yet the greatest part of our ideas are such, that we cannot discern their agreement or disagreement, by an immediate comparing them.

And in all these we have need of reasoning, and must, by discourse and inference, make our discoveries. Now, of these there are two sorts, which I shall take the liberty to mention here again.

First, Those whose agreement or disagreement, though it cannot be seen by an immediate putting them together, yet may be examined by the intervention of other ideas, which can be compared with them. In this case, when the agreement or disagreement of the intermediate idea, on both sides with those which we would compare, is plainly discerned, there it amounts to demonstration, whereby knowledge is produced, which though it be certain, yet it is not so easy, nor altogether so clear, as intuitive knowledge; because in that there is barely one simple intuition, wherein there is no room for any the least mistake or doubt; the truth is seen all perfectly at once. In demonstration, it is true, there is intuition too, but not altogether at once; for there must be a remembrance of the intuition of the agreement of the medium, or intermediate idea, with that we compared it with before, when we compare it with the other; and where there be many mediums, there the danger of the mistake is the greater. For each agreement or disagreement of the ideas must be observed and seen in each step of the whole train, and retained in the memory, just as it is, and the mind must be sure that no part of what is necessary to make up the demonstration, is omitted or overlooked. This makes some demonstrations long and perplexed, and too hard for those who have not strength of parts distinctly to perceive, and exactly carry so many particulars orderly in their heads. And even those, who are able to master such intricate speculations, are

fain sometimes to go over them again, and there is need of more than one review before they can arrive at certainty. But yet where the mind clearly retains the intuition it had of the agreement of any idea with another, and that with a third, and that with a fourth, &c. there the agreement of the first and the fourth is a demonstration, and produces certain knowledge, which may be called *rational knowledge*, as the other is *intuitive*.

§ 16. *Secondly*, There are other ideas, whose agreement or disagreement can no otherwise be judged of, but by the intervention of others, which have not a certain agreement with the extremes, but an usual or likely one: and in these it is, that the judgment is properly exercised, which is the acquiescing of the mind, that any ideas do agree, by comparing them with such probable mediums. This, though it never amounts to knowledge, no, not to that which is the lowest degree of it; yet sometimes the intermediate ideas tie the extremes so firmly together, and the probability is so clear and strong, that assent as necessarily follows it, as knowledge does demonstration. The great excellency and use of the judgment is to observe right, and take a true estimate of the force and weight of each probability; and then casting them up all right together, chuse that side which has the over-balance.

§ 17. *Intuitive knowledge* is the perception of the certain agreement or disagreement of two ideas, immediately compared together.

Rational knowledge is the perception of the certain agreement or disagreement of any two ideas, by the intervention of one or more other ideas.

Judgment is the thinking or taking two ideas to agree or disagree by the intervention of one or

more ideas, whose certain agreement or disagreement with them it does not perceive, but hath observed to be frequent and usual.

§ 18. Though the deducing one proposition from another, or making inferences in words, be a great part of reason, and that which it is usually employed about; yet the principal act of ratiocination is the finding the agreement or disagreement of two ideas one with another, by the intervention of a third. As a man, by a yard, finds two houses to be of the same length, which could not be brought together to measure their equality by juxtaposition. Words have their consequences, as the signs of such ideas: and things agree or disagree, as really they are; but we observe it only by our ideas.

§ 19. Before we quit this subject, it may be worth our while a little to reflect on four sorts of arguments, that men in their reasonings with others do ordinarily make use of, to prevail on their assent; or at least so to awe them, as to silence their opposition.

First, The first is, to alledge the opinions of men, whose parts, learning, eminency, power, or some other cause, has gained a name, and settled their reputation in the common esteem, with some kind of authority. When men are established in any kind of dignity, it is thought a breach of modesty for others to derogate any way from it, and question the authority of men who are in possession of it. This is apt to be censured, as carrying with it too much of pride, when a man does not readily yield to the determination of approved authors, which is wont to be received with respect and submission by others; and it is looked upon as insolence for a man to set up, and adhere to

his own opinion, against the current stream of antiquity, or to put it in the balance against that of some learned doctor, or otherwise approved writer. Whoever backs his tenets with such authorities, thinks he ought thereby to carry the cause, and is ready to stile it impudence in any one who shall stand out against them. 'This I think may be called *argumentum ad verecundiam*.

§ 20. *Secondly*, Another way that men ordinarily use to drive others, and force them to submit their judgments, and receive the opinion in debate, is to require the adversary to admit what they alledge as a proof, or to assign a better. And this I call *argumentum ad ignorantiam*.

§ 21. *Thirdly*, A third way is, to press a man with consequences drawn from his own principles or concessions. 'This is already known under the name of *argumentum ad hominem*.

§ 22. *Fourthly*, The fourth is, the using of proofs drawn from any of the foundations of knowledge or probability. 'This I call *argumentum ad iudicium*. This alone, of all the four, brings true instruction with it, and advances us in our way to knowledge. For, 1. It argues not another man's opinion to be right, because I, out of respect, or any other consideration, but that of conviction, will not contradict him. 2. It proves not another man to be in the right way, nor that I ought to take the same with him, because I know not a better. 3. Nor does it follow, that another man is in the right way, because he has shewn me that I am in the wrong. I may be modest, and therefore not oppose another man's persuasion; I may be ignorant, and not be able to produce a better; I may be in an error, and another may shew me that I am so. This may dis-

pose me perhaps for the reception of truth, but helps me not to it; that must come from proofs and arguments, and light arising from the nature of things themselves, and not from my shamefacedness, ignorance, or error.

§ 23. By what has been before said of reason, we may be able to make some guess at the distinction of things, into those that are according to, above, and contrary to reason. 1. *According to reason*, are such propositions, whose truth we can discover, by examining and tracing those ideas we have from *sensation* and *reflection*; and by natural deduction find to be true or probable. 2. *Above reason*, are such propositions, whose truth or probability we cannot by reason derive from those principles. 3. *Contrary to reason*, are such propositions, as are inconsistent with, or irreconcilable to our clear and distinct ideas. Thus the existence of one GOD, is according to reason; the existence of more than one GOD, contrary to reason; the resurrection of the dead, above reason. Farther, as *above reason* may be taken in a double sense, *viz.* either as signifying above probability, or above certainty; so in that large sense also, *contrary to reason*, is, I suppose, sometimes taken.

§ 24. There is another use of the word *reason*, wherein it is *opposed to faith*; which, though it be in itself a very improper way of speaking, yet common use has so authorised it, that it would be folly either to oppose or hope to remedy it; only I think it may not be amiss to take notice, that however faith be opposed to reason, faith is nothing but a firm assent of the mind; which, if it be regulated, as is our duty, cannot be afforded to any thing, but upon good reason, and so

cannot be opposite to it. He that believes, without having any reason for believing, may be in love with his own fancies; but neither seeks truth as he ought, nor pays the obedience due to his Maker, who would have him use those discerning faculties he has given him, to keep him out of mistake and error. He that does not this to the best of his power, however he sometimes lights on truth, is in the right but by chance; and I know not whether the luckiness of the accident will excuse the irregularity of his proceeding. This at least is certain, that he must be accountable for whatever mistakes he runs into; whereas he that makes use of the light and faculties God has given him, and seeks sincerely to discover truth by those helps and abilities he has, may have this satisfaction in doing his duty as a rational creature, that though he should miss truth, he will not miss the reward of it: for he governs his assent right, and places it as he should, who, in any case or matter whatsoever, believes or disbelieves according as reason directs him. He that does otherwise, transgresses against his own light, and misuses those faculties which were given him to no other end, but to search and follow the clearer evidence, and greater probability. But since reason and faith are by some men opposed, we will so consider them in the following chapter.

C H A P. XVIII.

Of FAITH and REASON, and their distinct Provinces.

§ 1. *Necessary to know their boundaries.* § 2. *Faith and reason what, as contradistinguished.* § 3. *No new simple idea can be conveyed by traditional revelation.* § 4. *Traditional revelation may make us know propositions knowable also by reason, but not with the same certainty that reason doth.* § 5. *Revelation cannot be admitted against the clear evidence of reason.* § 6. *Traditional revelation much less.* § 7. *Things above reason.* § 8. *Or not contrary to reason, if revealed, are matter of faith.* § 9. *Revelation in matters where reason cannot judge, or but probably, ought to be hearkened to.* § 10. *In matters where reason can afford certain knowledge, that is to be hearkened to.* § 11. *If the boundaries be not set between faith and reason, no enthusiasm, or extravagancy in religion, can be contradicted.*

§ 1. **I**T has been above shewn, 1. That we are of necessity ignorant, and want knowledge of all sorts, where we want ideas. 2. That we are ignorant, and want rational knowledge, where we want proofs. 3. That we want general knowledge and certainty, as far as we want clear and determined specific ideas. 4. That we want probability to direct our assent in matters where we have neither knowledge of our own, nor testimony of other men to bottom our reason upon.

From these things thus premised, I think we may come to lay down the measures and boundaries between faith and reason: the want whereof may possibly have been the cause, if not of great disorders, yet at least of great disputes, and perhaps mistakes in the world: for till it be resolved how far we are to be guided by reason, and how far by faith, we shall in vain dispute, and endeavour to convince one another in matters of religion.

§ 2. I find every sect, as far as reason will help them, make use of it gladly; and where it fails them, they cry out, *It is matter of faith, and above reason.* And I do not see how they can argue with any one, or ever convince a gainsayer, who makes use of the same plea, without setting down strict boundaries between faith and reason, which ought to be the first point established in all questions, where faith has any thing to do.

Reason therefore here, as contradistinguished to *faith*, I take to be the discovery of the certainty or probability of such propositions or truths, which the mind arrives at by deduction made from such ideas which it has got by the use of its natural faculties, viz. by sensation or reflection.

Faith, on the other side, is the assent to any proposition, not thus made out by the deductions of reason, but upon the credit of the proposer, as coming from GOD, in some extraordinary way of communication. This way of discovering truths to men, we call *revelation*.

§ 3. *First*, then, I say, that no man inspired by GOD, can by any revelation communicate to others any new simple ideas, which they had not before from sensation or reflection: for whatsoever impressions he himself may have from the im-

mediate hand of GOD, this revelation, if it be of new simple ideas, cannot be conveyed to another, either by words, or any other signs: because words, by their immediate operation on us, cause no other ideas but of their natural sounds; and it is by the custom of using them for signs, that they excite and revive in our minds latent ideas: but yet only such ideas as were there before. For words seen or heard recal to our thoughts those ideas only, which to us they have been wont to be signs of; but cannot introduce any perfectly new, and formerly unknown simple ideas. The same holds in all other signs, which cannot signify to us things of which we have before never had any idea at all.

Thus whatever things were discovered to St Paul when he was rapt up into the third heaven, whatever new ideas his mind there received, all the description he can make to others of that place, is only this, that there are such things *as eye hath not seen, nor ear heard, nor hath it entered into the heart of man to conceive.* And supposing GOD should discover to any one, supernaturally, a species of creatures inhabiting, for example, Jupiter or Saturn, (for that it is possible there may be such, no-body can deny), which had six senses: and imprint on his mind the ideas conveyed to theirs by that sixth sense, he could no more, by words, produce in the minds of other men those ideas, imprinted by that sixth sense, than one of us could convey the idea of any colour by the sounds of words into a man, who having the other four senses perfect, had always totally wanted the fifth of seeing. For our simple ideas then, which are the foundation and sole matter of all our notions and knowledge, we must

depend wholly on our reason, I mean our natural faculties, and can by no means receive them, or any of them, from *traditional revelation*; I say, *traditional revelation*, in distinction to *original revelation*. By the one, I mean that first impression which is made immediately by GOD, on the mind of any man, to which we cannot set any bounds; and by the other, those impressions delivered over to others in words, and the ordinary ways of conveying our conceptions one to another.

§ 4. *Secondly*, I say, that the same truths may be discovered, and conveyed down from revelation, which are discoverable to us by reason, and by those ideas we naturally may have. So GOD might, by revelation, discover the truth of any proposition in Euclid; as well as men, by the natural use of their faculties, come to make the discovery themselves. In all things of this kind, there is little need or use of revelation, GOD having furnished us with natural, and surer means to arrive at the knowledge of them. For whatsoever truth we come to the clear discovery of, from the knowledge and contemplation of our own ideas, will always be certainer to us, than those which are conveyed to us by traditional revelation: for the knowledge we have that this revelation came at first from GOD, can never be so sure as the knowledge we have from the clear and distinct perception of the agreement or disagreement of our own ideas, v. g. if it were revealed some ages since, that the three angles of a triangle were equal to two right ones, I might assent to the truth of that proposition, upon the credit of the tradition, that it was revealed: but that would never amount to so great a certainty as the knowledge of

it, upon the comparing and measuring my own ideas of two right angles, and the three angles of a triangle. The like holds in matter of fact, knowable by our senses, *v. g.* the history of the deluge is conveyed to us by writings, which had their original from revelation; and yet nobody, I think, will say he has as certain and clear a knowledge of the flood, as Noah that saw it; or that he himself would have had, had he then been alive and seen it. For he has no greater an assurance than that of his senses, that it is writ in the book supposed writ by Moses inspired; but he has not so great an assurance that Moses writ that book, as if he had seen Moses write it. So that the assurance of its being a revelation, is less still than the assurance of his senses.

§ 5. In propositions then, whose certainty is built upon the clear perception of the agreement or disagreement of our ideas, attained either by immediate intuition, as in self-evident propositions, or by evident deductions of reason in demonstrations, we need not the assistance of revelation, as necessary to gain our assent, and introduce them into our minds; because the natural ways of knowledge could settle them there, or had done it already, which is the greatest assurance we can possibly have of any thing, unless where God immediately reveals it to us: and there too our assurance can be no greater than our knowledge is, that it is a revelation from God. But yet nothing I think can, under that title, shake or overrule plain knowledge, or rationally prevail with any man to admit it for true, in a direct contradiction to the clear evidence of his own understanding: for since no evidence of our faculties by which we receive such revelations, can exceed, if

equal, the certainty of our intuitive knowledge, we can never receive for a truth any thing that is directly contrary to our clear and distinct knowledge, *v. g.* the ideas of one body and one place, do so clearly agree, and the mind has so evident a perception of their agreement, that we can never assent to a proposition, that affirms the same body to be in two distant places at once, however it should pretend to the authority of a divine revelation: since the evidence, 1. That we deceive not ourselves in ascribing it to GOD; 2. That we understand it right, can never be so great, as the evidence of our own intuitive knowledge, whereby we discern it impossible for the same body to be in two places at once. And therefore no proposition can be received for divine revelation, or obtain the assent due to all such, if it be contradictory to our clear intuitive knowledge. Because this would be to subvert the principles and foundations of all knowledge, evidence, and assent whatsoever: and there would be left no difference between truth and falsehood, no measures of credible and incredible in the world, if doubtful propositions shall take place before self-evident; and what we certainly know, give way to what we may possibly be mistaken in. In propositions therefore contrary to the clear perception of the agreement or disagreement of any of our ideas, it will be in vain to urge them as matters of faith. They cannot move our assent, under that or any other title whatsoever: for faith can never convince us of any thing that contradicts our knowledge; because, though faith be founded on the testimony of GOD, who cannot lie, revealing any proposition to us; yet we cannot have an assurance of the truth of its being a divine revelation,

greater than our own knowledge, since the whole strength of the certainty depends upon our knowledge, that GOD revealed it, which in this case, where the proposition supposed revealed contradicts our knowledge or reason, will always have this objection hanging to it, *viz.* that we cannot tell how to conceive that to come from GOD, the bountiful Author of our being, which, if received for true, must overturn all the principles and foundations of knowledge he has given us; render all our faculties useless; wholly destroy the most excellent part of his workmanship, our understandings; and put a man in a condition, wherein he will have less light, less conduct, than the beast that perisheth. For if the mind of man can never have a clearer, and perhaps not so clear, evidence of any thing to be a divine revelation, as it has of the principles of its own reason, it can never have a ground to quit the clear evidence of its reason, to give place to a proposition, whose revelation has not a greater evidence than those principles have.

§ 6. Thus far a man has use of reason, and ought to hearken to it, even in immediate and original revelation, where it is supposed to be made to himself: but to all those who pretend not to immediate revelation, but are required to pay obedience, and to receive the truths revealed to others, which, by the tradition of writings, or word of mouth, are conveyed down to them, reason has a great deal more to do, and is that only which can induce us to receive them. For matter of faith being only divine revelation, and nothing else; *faith*, as we use the word, called commonly *divine faith*, has to do with no propositions, but those which are supposed to be divinely revealed.

So that I do not see how those, who make revelation alone the sole object of faith, can say, that it is a matter of faith, and not of reason, to believe, that such or such a proposition, to be found in such or such a book, is of divine inspiration; unless it be revealed, that that proposition, or all in that book, was communicated by divine inspiration. Without such a revelation, the believing, or not believing that proposition, or book, to be of divine authority, can never be matter of faith, but matter of reason; and such, as I must come to an assent to only by the use of my reason, which can never require or enable me to believe that which is contrary to itself: it being impossible for reason ever to procure any assent to that, which to itself appears unreasonable.

In all things therefore, where we have clear evidence from our ideas, and those principles of knowledge I have above mentioned, reason is the proper judge; and revelation, though it may in consenting with it confirm its dictates, yet cannot in such cases invalidate its decrees: nor can we be obliged, where we have the clear and evident sentence of reason, to quit it for the contrary opinion, under a pretence that it is matter of faith; which can have no authority against the plain and clear dictates of reason.

§ 7. But, *thirdly*, There being many things, wherein we have very imperfect notions, or none at all; and other things, of whose past, present, or future existence, by the natural use of our faculties, we can have no knowledge at all; these, as being beyond the discovery of our natural faculties, and above reason, are, when revealed, the proper matter of faith. Thus, that part of the angels rebelled against God, and thereby lost

their first happy state; and that the dead shall rise, and live again: these and the like, being beyond the discovery of reason, are purely matters of faith; with which reason has, directly, nothing to do.

§ 8. But since GOD, in giving us the light of reason, has not thereby tied up his own hands from affording us, when he thinks fit, the light of revelation in any of those matters, wherein our natural faculties are able to give a probable determination; revelation, where GOD has been pleased to give it, must carry it against the probable conjectures of reason: because the mind, not being certain of the truth of that it does not evidently know, but only yielding to the probability that appears in it, is bound to give up its assent to such a testimony; which, it is satisfied, comes from one who cannot err, and will not deceive. But yet it still belongs to reason to judge of the truth of its being a revelation, and of the signification of the words wherein it is delivered. Indeed, if any thing shall be thought revelation, which is contrary to the plain principles of reason, and the evident knowledge the mind has of its own clear and distinct ideas, there reason must be hearkened to, as to a matter within its province. Since a man can never have so certain a knowledge, that a proposition, which contradicts the clear principles and evidence of his own knowledge, was divinely revealed, or that he understands the words rightly wherein it is delivered, as he has that the contrary is true; and so is bound to consider and judge of it as a matter of reason, and not swallow it, without examination, as a matter of faith.

§ 9. *First*, Whatever proposition is revealed,

of whose truth our mind, by its natural faculties and notions, cannot judge, that is purely matter of faith, and above reason.

Secondly, All propositions, whereof the mind, by the use of its natural faculties, can come to determine and judge, from naturally acquired ideas, are matter of reason; with this difference still, that in those concerning which it has but an uncertain evidence, and so is persuaded of their truth only upon probable grounds, which still admit a possibility of the contrary to be true, without doing violence to the certain evidence of its own knowledge, and overturning the principles of all reason, in such probable propositions; I say, an evident revelation ought to determine our assent even against probability. For where the principles of reason have not evidenced a proposition to be certainly true or false, there clear revelation, as another principle of truth, and ground of assent, may determine; and so it may be matter of faith, and be also above reason: because reason, in that particular matter, being able to reach no higher than probability, faith gave the determination where reason came short; and revelation discovered on which side the truth lay.

§ 10. Thus far the dominion of faith reaches, and that without any violence or hindrance to reason; which is not injured or disturbed, but assisted and improved, by new discoveries of truth, coming from the eternal fountain of all knowledge. Whatever God hath revealed, is certainly true; no doubt can be made of it. This is the proper object of faith: but whether it be a divine revelation or no, reason must judge; which can never permit the mind to reject a greater evidence, to embrace what is less evident, nor allow it to en-

certain probability in opposition to knowledge and certainty. There can be no evidence, that any traditional revelation is of divine original, in the words we receive it, and in the sense we understand it, so clear, and so certain, as that of the principles of reason : and therefore nothing that is contrary to, and inconsistent with clear and self-evident dictates of reason, has a right to be urged or assented to, as a matter of faith, — herein reason hath nothing to do. Whatsoever is divine revelation, ought to over-rule all our opinions, prejudices, and interests, and hath a right to be received with full assent : such a submission as this of our reason to faith, takes not away the landmarks of knowledge : this shakes not the foundations of reason, but leaves us that use of our faculties, for which they were given us.

§ 11. If the provinces of faith and reason are not kept distinct by these boundaries, there will, in matters of religion, be no room for reason at all ; and those extravagant opinions and ceremonies, that are to be found in the several religions of the world, will not deserve to be blamed. For, to this crying up of faith, in opposition to reason, we may, I think, in good measure, ascribe those absurdities that fill almost all the religions which possess and divide mankind. For men having been principled with an opinion, that they must not consult reason in the things of religion, however apparently contradictory to common sense, and the very principles of all their knowledge, have let loose their fancies, and natural superstition ; and have been, by them, led into so strange opinions, and extravagant practices in religion, that a considerate man cannot but stand amazed at their follies, and judge them so far from being

acceptable to the great and wise GOD, that he cannot avoid thinking them ridiculous, and offensive to a sober good man. So that, in effect, religion, which should most distinguish us from beasts, and ought most peculiarly to elevate us, as rational creatures, above brutes, is that wherein men often appear most irrational, and more senseless than beasts themselves. *Credo quia impossibile est* : I believe, because it is impossible, might, in a good man, pass for a folly of zeal; but would prove a very ill rule for men to chuse their opinions, or religion by.

CHAP XIX.

Of ENTHUSIASM.

- § 1. *Love of truth necessary.* § 2. *A forwardness to dictate, from whence.* § 3. *Force of enthusiasm.* § 4. *Reason and revelation.* § 5. *Rise of enthusiasm.* § 6, 7. *Enthusiasm.* § 8, 9. *Enthusiasm mistaken for seeing and feeling.* § 10. *Enthusiasm, how to be discovered.* § 11. *Enthusiasm fails of evidence, that the proposition is from God.* § 12. *Firmness of persuasion, no proof that any proposition is from God.* § 13. *Light in the mind, what.* § 14. *Revelation must be judged of by reason.* § 15, 16. *Belief no proof of revelation.*

§ 1. **H**E that would seriously set upon the search of truth, ought in the first place to prepare his mind with a love of it : for he that loves it not, will not take much pains to get it,

nor be much concerned when he misses it. There is no-body in the commonwealth of learning, who does not profess himself a lover of truth: and there is not a rational creature, that would not take it amiss to be thought otherwise of. And yet for all this, one may truly say, that there are very few lovers of truth for truth's sake, even amongst those who persuade themselves that they are so. How a man must know whether he be so in earnest, is worthy inquiry: and I think there is this one unerring mark of it, *viz.* the not entertaining any proposition with greater assurance, than the proofs it is built upon will warrant. Whoever goes beyond this measure of assent, it is plain, receives not truth in the love of it: loves not truth for truth's sake, but for some other by-end. For the evidence that any proposition is true, (except such as are self-evident), lying only in the proofs a man has of it, whatsoever degrees of assent he affords it beyond the degrees of that evidence, it is plain that all the surplusage of assurance is owing to some other affection, and not to the love of truth: it being as impossible, that the love of truth should carry my assent above the evidence there is to me that it is true, as that the love of truth should make me assent to any proposition, for the sake of that evidence, which it has not, that it is true; which is, in effect, to love it as a truth, because it is possible or probable that it may not be true. In any truth that gets not possession of our minds by the irresistible light of self-evidence, or by the force of demonstration, the arguments that gain it assent, are the vouchers and gage of its probability to us; and we can receive it for no other than such as they deliver it to our understandings. Whatsoever credit or au-

thority we give to any proposition more than it receives from the principles and proofs it supports itself upon, is owing to our inclinations that way, and is so far a derogation from the love of truth, as such : which, as it can receive no evidence from our passions or interests, so it should receive no tincture from them.

§ 2. The assuming an authority of dictating to others, and a forwardness to prescribe to their opinions, is a constant concomitant of this bias and corruption of our judgments : for how almost can it be otherwise, but that he should be ready to impose on others belief, who has already imposed on his own ? Who can reasonably expect arguments and conviction from him, in dealing with others, whose understanding is not accustomed to them in his dealing with himself ? who does violence to his own faculties, tyrannizes over his own mind, and usurps the prerogative that belongs to truth alone, which is to command assent by only its own authority, *i. e.* by and in proportion to that evidence which it carries with it.

§ 3. Upon this occasion I shall take the liberty to consider a third ground of assent, which, with some men, has the same authority, and is as confidently relied on as either faith or reason : I mean enthusiasm ; which, laying by reason, would set up revelation without it. Whereby in effect it takes away both reason and revelation, and substitutes in the room of it the ungrounded fancies of a man's own brain, and assumes them for a foundation both of opinion and conduct.

§ 4. Reason is natural revelation, whereby the eternal Father of light, and Fountain of all knowledge, communicates to mankind that portion of truth which he has laid within the reach of their

natural faculties. Revelation is natural reason enlarged by a new set of discoveries communicated by GOD immediately, which reason vouches the truth of, by the testimony and proofs it gives, that they come from GOD. So that he that takes away reason, to make way for revelation, puts out the light of both, and does much what the same, as if he would persuade a man to put out his eyes, the better to receive the remote light of an invisible star by a telescope.

§ 5. Immediate revelation being a much easier way for men to establish their opinions, and regulate their conduct, than the tedious and not always successful labour of strict reasoning, it is no wonder that some have been very apt to pretend to revelation, and to persuade themselves that they are under the peculiar guidance of heaven in their actions and opinions, especially in those of them which they cannot account for by the ordinary methods of knowledge, and principles of reason. Hence we see, that in all ages, men, in whom melancholy has mixed with devotion, or whose conceit of themselves has raised them into an opinion of a greater familiarity with GOD, and a nearer admittance to his favour than is afforded to others, have often flattered themselves with a persuasion of an immediate intercourse with the Deity, and frequent communications from the divine Spirit. GOD, I own, cannot be denied to be able to enlighten the understanding by a ray darted into the mind immediately from the fountain of light. This they understand he has promised to do, and who then has so good a title to expect it, as those who are his peculiar people, chosen by him, and depending on him?

§ 6. Their minds being thus prepared, what-

ever groundless opinion comes to settle itself strongly upon their fancies, is an illumination from the Spirit of God, and presently of divine authority: and whatsoever odd action they find in themselves a strong inclination to do, that impulse is concluded to be a call or direction from heaven, and must be obeyed; it is a commission from above, and they cannot err in executing it.

§ 7. This I take to be properly enthusiasm, which, though founded neither on reason nor divine revelation, but rising from the conceits of a warmed or over-weening brain, works yet, where it once gets footing, more powerfully on the persuasions and actions of men, than either of those two, or both together: men being most forwardly obedient to the impulses they receive from themselves; and the whole man is sure to act more vigorously, where the whole man is carried by natural motion. For strong conceit, like a new principle, carries all easily with it; when got above common sense, and freed from all restraint of reason, and check of reflection, it is heightened into a divine authority, in concurrence with our own temper and inclination.

§ 8. Though the odd opinions and extravagant actions enthusiasm has run men into, were enough to warn them against this wrong principle, so apt to misguide them both in their belief and conduct; yet the love of something extraordinary, the ease and glory it is to be inspired, and be above the common and natural ways of knowledge, so flatters many mens laziness, ignorance, and vanity, that when once they are got into this way of immediate revelation, of illumination without search, and of certainty without proof, and without examination, it is a hard matter to get them out of it.

Reason is lost upon them; they are above it: they see the light infused into their understandings, and cannot be mistaken; it is clear and visible there, like the light of bright sun-shine; shews itself, and needs no other proof, but its own evidence; they feel the hand of God moving them within, and the impulses of the Spirit, and cannot be mistaken in what they feel. Thus they support themselves, and are sure reason hath nothing to do with what they see and feel in themselves; what they have a sensible experience of, admits no doubt, needs no probation. Would he not be ridiculous, who should require to have it proved to him, that the light shines, and that he sees it? It is its own proof, and can have no other. When the Spirit brings light into our minds, it dispels darkness. We see it, as we do that of the sun at noon, and need not the twilight of reason to shew it us. This light from heaven is strong, clear, and pure; carries its own demonstration with it; and we may as naturally take a glow-worm to assist us to discover the sun, as to examine the celestial ray by our dim candle, reason.

§ 9. This is the way of talking of these men: they are sure, because they are sure; and their persuasions are right, only because they are strong in them. For, when what they say is stripped of the metaphor of seeing and feeling, this is all it amounts to; and yet these similes so impose on them, that they serve them for certainty in themselves, and demonstration to others.

§ 10. But to examine a little soberly this internal light, and this feeling on which they build so much. These men have, they say, clear light, and they see: they have an awakened sense, and

they feel: this cannot, they are sure, be disputed them. For when a man says he sees or feels, no-body can deny it him that he does so. But here let me ask, This seeing, is it the perception of the truth of the proposition, or of this, that it is a revelation from GOD? This feeling, is it a perception of an inclination or fancy to do something, or of the Spirit of GOD moving that inclination? These are two very different perceptions, and must be carefully distinguished, if we would not impose upon ourselves. I may perceive the truth of a proposition, and yet not perceive that it is an immediate revelation from GOD. I may perceive the truth of a proposition in Euclid, without its being, or my perceiving it to be a revelation: nay, I may perceive I came not by this knowledge in a natural way, and so may conclude it revealed, without perceiving that it is a revelation from GOD; because there be spirits, which, without being divinely commissioned, may excite those ideas in me, and lay them in such order before my mind, that I may perceive their connection. So that the knowledge of any proposition coming into my mind, I know not how, is not a perception that it is from GOD. Much less is a strong persuasion that it is true, a perception that it is from GOD, or so much as true. But however it be called light and seeing, I suppose, it is at most but belief and assurance: and the proposition taken for a revelation, is not such as they know to be true, but take to be true. For where a proposition is known to be true, revelation is needless: and it is hard to conceive how there can be a revelation to any one of what he knows already. If therefore it be a proposition which they are persuaded, but do not know to be true, whatever they may call it, it

is not seeing, but believing. For these are two ways, whereby truth comes into the mind, wholly distinct, so that one is not the other. What I see I know to be so by the evidence of the thing itself; what I believe, I take to be so upon the testimony of another: but this testimony I must know to be given, or else what ground have I of believing? I must see that it is GOD that reveals this to me, or else I see nothing. 'The question then here is, How do I know that GOD is the revealer of this to me; that this impression is made upon my mind by his Holy Spirit, and that therefore I ought to obey it? If I know not this, how great soever the assurance is that I am possessed with, it is groundless; whatever light I pretend to, it is but enthusiasm. For whether the proposition supposed to be revealed, be in itself evidently true, or visibly probable, or by the natural ways of knowledge uncertain, the proposition that must be well-grounded, and manifested to be true, is this, that GOD is the revealer of it, and that what I take to be a revelation, is certainly put into my mind by him, and is not an illusion, dropped in by some other spirit, or raised by my own fancy. For if I mistake not, these men receive it for true, because they presume GOD revealed it. Does it not then stand them upon, to examine on what grounds they presume it to be a revelation from GOD? Or else all their confidence is mere presumption; and this light they are so dazzled with, is nothing but an *ignis fatuus*, that leads them constantly round in this circle. It is a revelation, because they firmly believe it; and they believe it, because it is revelation.

§ 11. In all that is of divine revelation, there is need of no other proof, but that it is an inspi-

ration from GOD : for he can neither deceive, nor be deceived. But how shall it be known, that any proposition in our minds is a truth infused by GOD ; a truth that is revealed to us by him, which he declares to us, and therefore we ought to believe ? Here it is that enthusiasm fails of the evidence it pretends to. For men thus possessed, boast of a light whereby, they say, they are enlightened, and brought into the knowledge of this or that truth. But if they know it to be a truth, they must know it to be so either by its own self-evidence to natural reason, or by the rational proofs that make it out to be so. If they see and know it to be a truth either of these two ways, they in vain suppose it to be a revelation. For they know it to be true the same way that any other man naturally may know that it is so, without the help of revelation. For thus all the truths, of what kind soever, that men uninspired are enlightened with, come into their minds, and are established there. If they say they know it to be true, because it is a revelation from GOD, the reason is good : but then it will be demanded, how they know it to be a revelation from GOD. If they say by the light it brings with it, which shines bright in their minds, and they cannot resist ; I beseech them to consider, whether this be any more than what we have taken notice of already, *viz.* that it is a revelation, because they strongly believe it to be true. For all the light they speak of is but a strong, though ungrounded, persuasion of their own minds, that it is a truth. For rational grounds from proofs, that it is a truth, they must acknowledge to have none ; for then it is not received as a revelation, but upon the ordinary grounds that other truths are received : and if

they believe it to be true, because it is a revelation, and have no other reason for its being a revelation, but because they are fully persuaded, without any other reason that it is true, they believe it to be a revelation only because they strongly believe it to be a revelation; which is a very unsafe ground to proceed on, either in our tenets or actions: and what readier way can there be to run ourselves into the most extravagant errors and miscarriages, than thus to set up fancy for our supreme and sole guide, and to believe any proposition to be true, any action to be right, only because we believe it to be so; the strength of our persuasions are no evidence at all of their own rectitude: crooked things may be as stiff and inflexible as streight; and men may be as positive and peremptory in error as in truth. How come else the untractable zealots in different and opposite parties? For if the light, which every one thinks he has in his mind, which in this case is nothing but the strength of his own persuasion, be an evidence that it is from GOD, contrary opinions have the same title to be inspirations; and GOD will be not only the Father of lights, but of opposite and contradictory lights, leading men contrary ways; and contradictory propositions will be divine truths, if an ungrounded strength of assurance be an evidence that any proposition is a divine revelation.

§ 12. This cannot be otherwise, whilst firmness of persuasion is made the cause of believing, and confidence of being in the right is made an argument of truth. St Paul himself believed he did well, and that he had a call to it when he persecuted the Christians, whom he confidently thought in the wrong: but yet it was he, and

not they, who were mistaken. Good men are men still, liable to mistakes, and are sometimes warmly engaged in errors, which they take for divine truths, shining in their minds with the clearest light.

§ 13. Light, true light in the mind is, or can be nothing else but the evidence of the truth of any proposition; and if it be not a self-evident proposition, all the light it has, or can have, is from the clearness and validity of those proofs upon which it is received. To talk of any other light in the understanding, is to put ourselves in the dark, or in the power of the prince of darkness, and by our own consent, to give ourselves up to delusion, to believe a lie: for if strength of persuasion be the light which must guide us, I ask, How shall any one distinguish between the delusions of Satan, and the inspirations of the Holy Ghost? He can transform himself into an angel of light. And they who are led by this son of the morning, are as fully satisfied of the illumination, *i. e.* are as strongly persuaded that they are enlightened by the Spirit of God, as any one who is so: they acquiesce and rejoice in it, are acted by it; and no-body can be more sure, nor more in the right, (if their own strong belief may be judge), than they.

§ 14. He therefore that will not give himself up to all the extravagancies of delusion and error, must bring this guide of his light within to the trial. God, when he makes the prophet, does not unmake the man: he leaves all his faculties in their natural state, to enable him to judge of his inspirations, whether they be of divine origin or no. When he illuminates the mind with supernatural light, he does not extinguish that

which is natural. If he would have us assent to the truth of any proposition, he either evidences that truth by the usual methods of natural reason, or else makes it known to be a truth, which he would have us assent to by his authority, and convinces us that it is from him, by some marks which reason cannot be mistaken in. Reason must be our last judge and guide in every thing. I do not mean, that we must consult reason, and examine whether a proposition revealed from God can be made out by natural principles; and if it cannot, that then we may reject it: but consult it we must, and by it examine whether it be a revelation from God or no: and if reason finds it to be revealed from God, reason then declares for it, as much as for any other truth, and makes it one of her dictates. Every conceit that thoroughly warms our fancies, must pass for an inspiration, if there be nothing but the strength of our persuasions, whereby to judge of our persuasions. If reason must not examine their truth by something extrinſical to the persuasions themselves, inspirations and delusions, truth and falsehood, will have the same measure, and will not be possible to be distinguished.

§ 15. If this internal light, or any proposition which under that title we take for inspired, be conformable to the principles of reason, or to the word of God, which is attested revelation, reason warrants it, and we may safely receive it for true, and be guided by it in our belief and actions: if it receive no testimony nor evidence from either of these rules, we cannot take it for a revelation, or so much as for true, till we have some other mark that it is a revelation, besides our believing that it is so. Thus we see the holy men of old,

who had revelations from GOD, had something else besides that internal light of assurance in their own minds, to testify to them that it was from GOD. They were not left to their own persuasions alone, that those persuasions were from GOD, but had outward signs to convince them of the author of those revelations. And when they were to convince others, they had a power given them to justify the truth of their commission from heaven; and by visible signs to assert the divine authority of a message they were sent with. Moses saw the bush burn without being consumed, and heard a voice out of it. This was something besides finding an impulse upon his mind to go to Pharaoh, that he might bring his brethren out of Egypt; and yet he thought not this enough to authorise him to go with that message, till GOD, by another miracle of his rod turned into a serpent, had assured him of a power to testify his mission by the same miracle repeated before them whom he was sent to. Gideon was sent by an angel to deliver Israel from the Midianites, and yet he desired a sign to convince him, that this commission was from GOD. These, and several the like instances to be found among the prophets of old, are enough to shew, that they thought not an inward seeing or persuasion of their own minds, without any other proof, a sufficient evidence that it was from GOD, though the scripture does not every-where mention their demanding or having such proofs.

§ 16. In what I have said, I am far from denying that GOD can, or doth sometimes enlighten mens minds in the apprehending of certain truths, or excite them to good actions, by the immediate influence and assistance of the Holy Spirit, with-

out any extraordinary signs accompanying it. But in such cases too we have reason and scripture, unerring rules, to know whether it be from God or no. Where the truth embraced is consonant to the revelation in the written word of God, or the action conformable to the dictates of right reason, or holy writ, we may be assured that we run no risk in entertaining it as such; because though perhaps it be not an immediate revelation from God, extraordinarily operating on our minds; yet we are sure it is warranted by that revelation which he has given us of truth. But it is not the strength of our private persuasion within ourselves, that can warrant it to be a light or motion from heaven; nothing can do that but the written word of God without us, or that standard of reason which is common to us with all men. Where reason or scripture is express for any opinion or action, we may receive it as of divine authority; but it is not the strength of our own persuasions which can by itself give it that stamp. The bent of our own minds may favour it as much as we please; that may shew it to be a fondling of our own, but will by no means prove it to be an offspring of heaven, and of divine original.

C H A P. XX.

Of WRONG ASSENT, or ERROR.

§ 1. *Causes of error.* § 2. *First, Want of proofs.*
 § 3. *Obj. What shall become of those who want them, answered.* § 4. *People hindered from inquiry.* § 5. *Secondly, Want of skill to use them.*
 § 6. *Thirdly, Want of will to use them.* § 7. *Fourthly, Wrong measures of probability; whereof,* § 8—10. *First, Doubtful propositions taken for principles.* § 11. *Secondly, Received hypotheses.* § 12. *Thirdly, Predominant passions.*
 § 13. *The means of evading probabilities: First, Supposed fallacy.* § 14. *Secondly, Supposed arguments for the contrary.* § 15. *What probabilities determine the assent.* § 16. *Where it is in our power to suspend it.* § 17. *Fourthly, Authority.* § 18. *Men not in so many errors as is imagined.*

§ 1. **K**NOWLEDGE being to be had only of visible and certain truth, ERROR is not a fault of our knowledge, but a mistake of our judgment, giving assent to that which is not true.

But if assent be grounded on likelihood, if the proper object and motive of our assent be probability, and that probability consists in what is laid down in the foregoing chapters, it will be demanded, how men come to give their assents contrary to probability. For there is nothing more common than contrariety of opinions; nothing more obvious, than that one man wholly disbe-

believes what another only doubts of, and a third stedfastly believes, and firmly adheres to. The reasons whereof, though they may be very various, yet, I suppose, may be all reduced to these four :

1. Want of proofs.
2. Want of ability to use them.
3. Want of will to use them.
4. Wrong measures of probability.

§ 2. *First*, By *want of proofs*, I do not mean only the want of those proofs which are no-where extant, and so are no-where to be had ; but the want even of those proofs, which are in being, or might be procured. And thus men want proofs, who have not the convenience or opportunity to make experiments and observations themselves, tending to the proof of any proposition ; nor likewise the convenience to inquire into, and collect the testimonies of others : and in this state are the greatest part of mankind, who are given up to labour, and enslaved to the necessity of their mean condition, whose lives are worn out only in the provisions for living. These mens opportunity of knowledge and inquiry are commonly as narrow as their fortunes, and their understandings are but little instructed, when all their whole time and pains is laid out to still the croaking of their own bellies, or the cries of their children. It is not to be expected, that a man who drudges on all his life in a laborious trade, should be more knowing in the variety of things done in the world, than a pack-horse who is driven constantly forwards and backwards in a narrow lane, and dirty road, only to market, should be skilled in the geography of the country. Nor is it at all more possible, that he who wants leisure, books, and languages, and the opportunity of

conversing with variety of men, should be in a condition to collect those testimonies and observations which are in being, and are necessary to make out many, nay, most of the propositions, that in the societies of men are judged of the greatest moment; or to find out grounds of assurance so great, as the belief of the points he would build on them, is thought necessary. So that a great part of mankind are, by the natural and unalterable state of things in this world, and the constitution of human affairs, unavoidably given over to invincible ignorance of those proofs on which others build, and which are necessary to establish those opinions; the greatest part of men, having much to do to get the means of living, are not in a condition to look after those of learned and laborious inquiries.

§ 3. What shall we say then? Are the greatest part of mankind, by the necessity of their condition, subjected to unavoidable ignorance in those things which are of greatest importance to them? (for of those it is obvious to inquire). Have the bulk of mankind no other guide, but accident and blind chance, to conduct them to their happiness or misery? Are the current opinions, and licensed guides of every country, sufficient evidence and security to every man, to venture his greatest concerns on; nay, his everlasting happiness or misery? Or can those be the certain and infallible oracles and standards of truth, which teach one thing in Christendom, and another in Turkey? Or, shall a poor countryman be eternally happy, for having the chance to be born in Italy; or a day-labourer be unavoidably lost, because he had the ill luck to be born in England? How ready some men

may be to say some of these things, I will not here examine; but this I am sure, that men must allow one or other of these to be true, (let them chuse which they please), or else grant, that God has furnished men with faculties sufficient to direct them in the way they should take, if they will but seriously employ them that way, when their ordinary vocations allow them the leisure. No man is so wholly taken up with the attendance on the means of living, as to have no spare time at all to think of his soul, and inform himself in matters of religion. Were men as intent upon this, as they are on things of lower concernment, there are none so enslaved to the necessities of life, who might not find many vacancies that might be husbanded to this advantage of their knowledge.

§ 4. Besides those whose improvements and informations are straitened by the narrowness of their fortunes, there are others, whose largeness of fortune would plentifully enough supply books, and other requisites for clearing of doubts, and discovering of truth; but they are cooped in close by the laws of their countries, and the strict guards of those whose interest it is to keep them ignorant, lest, knowing more, they should believe the less in them. These are as far, nay, farther from the liberty and opportunities of a fair inquiry, than those poor and wretched labourers we before spoke of; and, however they may seem high and great, are confined to narrowness of thought, and enslaved in that which should be the freest part of man, their understandings. This is generally the case of all those who live in places where care is taken to propagate truth without knowledge, where men are forced, at a venture, to be of the religion of the country, and must therefore swal-

low down opinions, as silly people do empirics pills, without knowing what they are made of, or how they will work, and have nothing to do but believe that they will do the cure; but in this are much more miserable than they, in that they are not at liberty to refuse swallowing what perhaps they had rather let alone, or to chuse the physician to whose conduct they would trust themselves.

§ 5. *Secondly*, Those who want skill to use those evidences they have of probabilities, who cannot carry a train of consequences in their heads, nor weigh exactly the preponderancy of contrary proofs and testimonies, making every circumstance its due allowance, may be easily misled to assent to positions that are not probable. There are some men of one, some but of two syllogisms, and no more; and others that can but advance one step farther. These cannot always discern that side on which the strongest proofs lie, cannot constantly follow that which in itself is the more probable opinion. Now that there is such a difference between men, in respect of their understandings, I think no-body, who has had any conversation with his neighbours, will question, though he never was at Westminster-hall, or the Exchange, on the one hand; nor at Alms-houses, or Bedlam, on the other: which great difference in mens intellectuals, whether it rises from any defect in the organs of the body, particularly adapted to thinking; or in the dulness or untractableness of those faculties, for want of use; or, as some think, in the natural differences of mens souls themselves; or some, or all of these together, it matters not here to examine: only this is evident, that there is a difference of degrees in mens understandings;

apprehensions, and reasonings, to so great a latitude, that one may, without doing injury to mankind, affirm, that there is a greater distance between some men, and others, in this respect, than between some men, and some beasts. But how this comes about, is a speculation, though of great consequence, yet not necessary to our present purpose.

§ 6. *Thirdly*, There are another sort of people that want proofs, not because they are out of their reach, but because they will not use them; who, though they have riches and leisure enough, and want neither parts nor other helps, are yet never the better for them. Their hot pursuit of pleasure, or constant drudgery in business, engages some mens thoughts elsewhere; laziness and ositancy in general, or a particular aversion for books, study, and meditation, keep others from any serious thoughts at all; and some out of fear, that an impartial inquiry would not favour those opinions which best suit their prejudices, lives, and designs, content themselves without examination, to take upon trust, what they find convenient, and in fashion. Thus most men, even of those that might do otherwise, pass their lives without an acquaintance with, much less a rational assent to probabilities they are concerned to know, though they lie so much within their view, that to be convinced of them they need but turn their eyes that way. But we know some men will not read a letter, which is supposed to bring ill news; and many men forbear to cast up their accounts, or so much as think upon their estates, who have reason to fear their affairs are in no very good posture. How men, whose plentiful fortunes allow them leisure to improve their understandings, can satisfy themselves with

a lazy ignorance, I cannot tell; but methinks they have a low opinion of their souls, who lay out all their incomes in provisions for the body, and employ none of it to procure the means and helps of knowledge; who take great care to appear always in a neat and splendid outside, and would think themselves miserable in coarse clothes, or a patched coat, and yet contentedly suffer their minds to appear abroad in a pie-bald livery of coarse patches, and borrowed shreds, such as it has pleased chance, or their country-taylor, (I mean the common opinion of those they have conversed with), to clothe them in. I will not here mention how unreasonable this is for men that ever think of a future state, and their concernment in it, which no rational man can avoid to do sometimes; nor shall I take notice what a shame and confusion it is, to the greatest contemners of knowledge, to be found ignorant in things they are concerned to know. But this, at least, is worth the consideration of those who call themselves gentlemen, that however they may think credit, respect, power, and authority, the concomitants of their birth and fortune, yet they will find all these still carried away from them by men of lower condition, who surpass them in knowledge. They who are blind will always be led by those that see, or else fall into the ditch: and he is certainly the most subject, the most enslaved, who is so in his understanding. In the foregoing instances, some of the causes have been shewn of wrong assent, and how it comes to pass, that probable doctrines are not always received with an assent proportionable to the reasons which are to be had for their probability: but hitherto we have considered only such probabilities, whose proofs

do exist, but do not appear to him that embraces the error.

§ 7. *Fourthly*, There remains yet the last sort, who, even where the real probabilities appear, and are plainly laid before them, do not admit of the conviction, nor yield unto manifest reasons, but do either, *ἐπεχειν*, suspend their assent, or give it to the less probable opinion. And to this danger are those exposed, who have taken up wrong measures of probability; which are,

1. Propositions that are not in themselves certain and evident, but doubtful and false, taken up for principles.
2. Received hypotheses.
3. Predominant passions or inclinations.
4. Authority.

§ 8. *First*, The first and firmest ground of probability, is the conformity any thing has to our own knowledge; especially that part of our knowledge which we have embraced, and continue to look on as principles. These have so great an influence upon our opinions, that it is usually by them we judge of truth, and measure probability to that degree, that what is inconsistent with our principles, is so far from passing for probable with us, that it will not be allowed possible. The reverence born to these principles is so great, and their authority so paramount to all other, that the testimony not only of other men, but the evidence of our own senses are often rejected, when they offer to vouch any thing contrary to these established rules. How much the doctrine of innate principles, and that principles are not to be proved or questioned, has contributed to this, I will not here examine. This I readily grant, that one truth cannot contradict another: but

withal, I take leave also to say, that every one ought very carefully to beware what he admits for a principle, to examine it strictly, and see whether he certainly knows it to be true of itself by its own evidence, or whether he does only with assurance believe it to be so upon the authority of others: for he hath a strong bias put into his understanding, which will unavoidably misguide his assent, who hath imbibed wrong principles, and has blindly given himself up to the authority of any opinion in itself not evidently true.

§ 9. There is nothing more ordinary, than childrens receiving into their minds propositions (especially about matters of religion) from their parents, nurses, or those about them; which being insinuated into their unwary, as well as unbiassed understandings, and fastened by degrees, are at last (equally, whether true or false) rivetted there, by long custom and education, beyond all possibility of being pulled out again. For men, when they are grown up, reflecting upon their opinions, and finding those of this sort to be as ancient in their minds as their very memories, not having observed their early insinuation, nor by what means they got them, they are apt to reverence them as sacred things, and not to suffer them to be profaned, touched, or questioned: they look on them as the Urim and Thummim set up in their minds immediately by God himself, to be the great and unerring deciders of truth and falsehood, and the judges to which they are to appeal in all manner of controversies.

§ 10. This opinion of his principles (let them be what they will) being once established in any one's mind, it is easy to be imagined, what reception any proposition shall find, how clearly soever pro-

ed, that shall invalidate their authority, or at all thwart with these internal oracles: whereas, the grossest absurdities and improbabilities, being but agreeable to such principles, go down glibly, and are easily digested. The great obstinacy that is to be found in men firmly believing quite contrary opinions, though many times equally absurd in the various religions of mankind, are as evident a proof, as they are an unavoidable consequence of this way of reasoning from received traditional principles. So that men will disbelieve their own eyes, renounce the evidence of their senses, and give their own experience the lie, rather than admit of any thing disagreeing with these sacred tenets: Take an intelligent Romanist, that from the very first dawning of any notions in his understanding, hath had this principle constantly inculcated, *viz.* that he must believe as the church (*i. e.* those of his communion) believes; or that the Pope is infallible; and this he never so much as heard questioned, till at forty or fifty years old he met with one of other principles; how is he prepared easily to swallow, not only against all probability, but even the clear evidence of his senses, the doctrine of transubstantiation? This principle has such an influence on his mind, that he will believe that to be flesh, which he sees to be bread. And what way will you take to convince a man of any improbable opinion he holds, who, with some philosophers, hath laid down this as a foundation of reasoning, that he must believe his reason (for so men improperly call arguments drawn from their principles) against his senses? Let an Enthusiast be principled that he or his teacher is inspired, and acted by an immediate communication of the divine Spirit, and you in vain bring the evi-

dence of clear reasons against his doctrine. Whoever therefore have imbibed wrong principles, are not, in things inconsistent with these principles, to be moved by the most apparent and convincing probabilities, till they are so candid and ingenuous to themselves, as to be persuaded to examine even those very principles, which many never suffer themselves to do.

§ 11. *Secondly*, Next to these, are men whose understandings are cast into a mold, and fashioned just to the size of a received hypothesis. The difference between these and the former, is, that they will admit of matter of fact, and agree with dissenters in that; but differ only in assigning of reasons, and explaining the manner of operation. These are not at that open defiance with their senses, with the former; they can endure to hearken to their information a little more patiently; but will by no means admit of their reports in the explanation of things; nor be prevailed on by probabilities, which would convince them, that things are not brought about just after the same manner that they have decreed within themselves that they are. Would it not be an insufferable thing, for a learned professor, and that which his scarlet would blush at, to have his authority of forty years standing, wrought out of hard rock, Greek and Latin, with no small expence of time and candle, and confirmed by general tradition, and a reverend beard, in an instant overturned by an upstart novelist? Can any one expect that he should be made to confess, that what he taught his scholars thirty years ago, was all error and mistake; and that he sold them hard words and ignorance at a very dear rate? What probabilities, I say, are sufficient to prevail in such a case?

and who ever by the most cogent arguments will be prevailed with to disrobe himself at once of all his old opinions, and pretences to knowledge and learning, which with hard study he hath all his time been labouring for; and turn himself out stark naked in quest afresh of new notions? all the arguments can be used, will be as little able to prevail, as the wind did with the traveller, to part with his cloak, which he held only the faster. To this of wrong hypothesis, may be reduced the errors, that may be occasioned by a true hypothesis, or right principles, but not rightly understood. There is nothing more familiar than this. The instances of men contending for different opinions, which they all derive from the infallible truth of the scripture, are an undeniable proof of it. All that call themselves Christians, allow the text that says, *μετανοειτε*, to carry in it the obligation to a very weighty duty. But yet how very erroneous will one of their practices be, who understanding nothing but the French, take this rule with one translation to be *repentez vous*, repent: or with the other *faitiez penitence*, do penance.

§ 12. *Thirdly*, Probabilities, which cross mens appetites and prevailing passions, run the same fate. Let never so much probability hang on one side of a covetous man's reasoning, and money on the other, it is easy to foresee which will outweigh. Earthly minds, like mud-walls, resist the strongest batteries; and though, perhaps, sometimes the force of a clear argument may make some impression, yet they nevertheless stand firm, and keep out the enemy, truth, that would captivate or disturb them. Tell a man, passionately in love, that he is jilted; bring a score of witnesses of

the falsehood of his mistress, it is ten to one but three kind words of her's shall invalidate all their testimonies. *Quod volumus, facile credimus*; what suits our wishes, is forwardly believed; is, I suppose, what every one hath more than once experimented; and though men cannot always openly gainsay or resist the force of manifest probabilities, that make against them, yet yield they not to the argument; not but that it is the nature of the understanding constantly to close with the more probable side, but yet a man hath a power to suspend and restrain its inquiries, and not permit a full and satisfactory examination, as far as the matter in question is capable, and will bear it to be made. Until that be done, there will be always these two ways left of evading the most apparent probabilities.

§ 13. *First*, That the arguments being (as for the most part they are) brought in words, there may be a fallacy latent in them; and the consequences being, perhaps, many in train, they may be some of them incoherent. There are very few discourses so short, clear, and consistent, to which most men may not, with satisfaction enough to themselves, raise this doubt; and from whose conviction they may not, without reproach of dissimulation or unreasonableness, set themselves free with the old reply, *Non persuadebis, etiamsi persuaseris*; though I cannot answer, I will not yield.

§ 14. *Secondly*, Manifest probabilities may be evaded, and the assent withheld upon this suggestion, that I know not yet all that may be said on the contrary side. And therefore, though I be beaten, it is not necessary I should yield, not knowing what forces there are in reserve behind.

This is a refuge against conviction, so open and so wide, that it is hard to determine when a man is quite out of the verge of it.

§ 15. But yet there is some end of it; and a man having carefully inquired into all the grounds of probability and unlikeliness, done his utmost to inform himself in all particulars fairly, and cast up the sum total on both sides, may in most cases come to a knowledge, upon the whole matter, on which side the probability rests; wherein some proofs in matter of reason, being suppositions upon universal experience, are so cogent and clear, and some testimonies in matter of fact so universal, that he cannot refuse his assent. So that, I think, we may conclude, that in propositions, where though the proofs in view are of most moment, yet there are sufficient grounds to suspect, that there is either fallacy in words, or certain proofs, as considerable, to be produced on the contrary side, there assent, suspense, or dissent, are often voluntary actions: but where the proofs are such as make it highly probable, and there is not sufficient ground to suspect that there is either fallacy of words, (which sober and serious consideration may discover), not equally valid proofs yet undiscovered latent on the other side, (which also the nature of the thing, may, in some cases, make plain to a considerate man), there, I think, a man, who has weighed them, can scarce refuse his assent to the side on which the greater probability appears. Whether it be probable, that a promiscuous jumble of printing letters should often fall into a method and order, which should stamp on paper a coherent discourse; or that a blind fortuitous concourse of atoms, not guided by an understanding agent, should frequently con-

stitute the bodies of any species of animals : in these and the like cases, I think, no-body that considers them, can be one jot at a stand which side to take, nor at all waver in his assent. *Lastly*, when there can be no supposition, (the thing in its own nature indifferent, and wholly depending upon the testimony of witnesses), that there is as fair testimony against, as for the matter of fact attested ; which by inquiry is to be learned, *v. g.* whether there was 1700 years ago such a man at Rome as Julius Cæsar : in all such cases, I say, I think it is not in any rational man's power to refuse his assent ; but that it necessarily follows, and closes with such probabilities. In other less clear cases, I think it is in a man's power to suspend his assent ; and perhaps, content himself with the proofs he has, if they favour the opinion that suits with his inclination or interest, and so stop from farther search. But that a man should afford his assent to that side on which the less probability appears to him, seems to me utterly impracticable, and as impossible, as it is to believe the same thing probable and improbable at the same time.

§ 16. As knowledge is no more arbitrary than perception ; so, I think, assent is no more in our power than knowledge. When the agreement of any two ideas appears to our minds, whether immediately, or by the assistance of reason, I can no more refuse to perceive, no more avoid knowing it, than I can avoid seeing those objects which I turn my eyes to, and look on in day-light : and what, upon full examination, I find the most probable, I cannot deny my assent to. But though we cannot hinder our knowledge, where the agreement is once perceived ; nor our assent, where the probability manifestly appears upon due conside-

ration of all the measures of it; yet we can hinder both knowledge and assent by stopping our inquiry, and not employing our faculties in the search of any truth. If it were not so, ignorance, error, or infidelity, could not in any case be a fault. Thus, in some cases, we can prevent or suspend our assent: but can a man, versed in modern or ancient history, doubt whether there is such a place as Rome, or whether there was such a man as Julius Cæsar? Indeed there are millions of truths, that a man is not, or may not think himself concerned to know, as whether our King Richard the Third was crook-backed, or no; or whether Roger Bacon was a mathematician, or a magician. In these and such-like cases, where the assent, one way or other, is of no importance to the interest of any one, no action, no concernment of his following, or depending thereon, there it is not strange that the mind should give itself up to the common opinion, or render itself to the first comer. These, and the like opinions, are of so little weight and moment, that, like motes in the sun, their tendencies are very rarely taken notice of. They are there, as it were, by chance, and the mind lets them float at liberty. But where the mind judges that the proposition has concernment in it; where the assent or not assenting is thought to draw consequences of moment after it, and good and evil to depend on chusing or refusing the right side, and the mind sets itself seriously to inquire, and examine the probability; there, I think, it is not in our choice to take which side we please, if manifest odds appear on either. The greater probability, I think, in that case, will determine the assent; and a man can no more avoid assenting, or taking it to be true, where he perceives

the greater probability, than he can avoid knowing it to be true, where he perceives the agreement or disagreement of any two ideas.

If this be so, the foundation of error will lie in wrong measures of probability; as the foundation of vice in wrong measures of good.

§ 17. *Fourthly*, The fourth and last wrong measure of probability I shall take notice of, and which keeps in ignorance or error more people than all the other together; is that which I have mentioned in the foregoing chapter, I mean, the giving up our assent to the common received opinions, either of our friends or party, neighbourhood or country. How many men have no other ground for their tenets, than the supposed honesty or learning, or number of those of the same profession? As if honest or bookish men could not err; or truth were to be established by the vote of the multitude; yet this, with most men, serves the turn. The tenet has had the attestation of reverend antiquity; it comes to me with the passport of former ages, and therefore I am secure in the reception I gave it; other men have been, and are of the same opinion, (for that is all is said) and therefore it is reasonable for me to embrace it. A man may more justifiably throw up crosses and pile for his opinions, than take them up by such measures. All men are liable to error, and most men are, in many points, by passion or interest, under temptation to it. If we could but see the secret motives that influenced the men of name and learning in the world, and the leaders of parties, we should not always find, that it was the embracing of truth for its own sake, that made them espouse the doctrines they owned and maintained. This at least is certain, there is

not an opinion so absurd, which a man may not receive upon this ground. There is no error to be named, which has not had its professors; and a man shall never want crooked paths to walk in, if he thinks that he is in the right way, wherever he has the footsteps of others to follow.

§ 18. But, notwithstanding the great noise is made in the world about errors and opinions, I must do mankind that right, as to say, there are not so many men in errors, and wrong opinions, as is commonly supposed. Not that I think they embrace the truth; but indeed because concerning those doctrines they keep such a stir about, they have no thought, no opinion at all. For if any one should a little catechize the greatest part of the partizans of most of the sects in the world, he would not find, concerning those matters they are so zealous for, that they have any opinions of their own: much less would he have reason to think, that they took them upon the examination of arguments, and appearance of probability. They are resolved to stick to a party that education or interest has engaged them in; and there, like the common soldiers of an army, shew their courage and warmth as their leaders direct, without ever examining, or so much as knowing the cause they contend for. If a man's life shews that he has no serious regard for religion; for what reason should we think, that he beats his head about the opinions of his church, and troubles himself to examine the grounds of this or that doctrine? It is enough for him to obey his leaders, to have his hand and his tongue ready for the support of the common cause, and thereby approve himself to those who can give him credit, preferment, or protection in that society. Thus

men become professors of, and combatants for those opinions, they were never convinced of, nor proselytes to, no, nor ever had so much as floating in their heads; and though one cannot say there are fewer improbable or erroneous opinions in the world than there are; yet this is certain, there are fewer that actually assent to them, and mistake them for truths, than is imagined.

C H A P. XXI.

Of the DIVISION of the SCIENCES.

§ 1. *Three sorts.* § 2. *First, Physica.* § 3. *Secondly, Practica.* § 4. *Thirdly, Σημωτική.* § 5. *This is the first division of the objects of knowledge.*

§ 1. **A**LL that can fall within the compass of human understanding, being either, 1. The nature of things, as they are in themselves, their relations, and their manner of operation: or, 2. That which man himself ought to do, as a rational and voluntary agent for the attainment of any end, especially happiness: or, 3. The ways and means whereby the knowledge of both the one and the other of these are attained and communicated: I think, science may be divided properly into these three sorts.

§ 2. *First,* The knowledge of things, as they are in their own proper beings, their constitutions, properties, and operations, whereby I mean not only matter and body, but spirits also, which

have their proper natures, constitutions, and operations, as well as bodies. This, in a little more enlarged sense of the word, I call *φυσικη*, or *natural philosophy*. The end of this is bare speculative truth, and whatsoever can afford the mind of man any such, falls under this branch, whether it be God himself, angels, spirits, bodies, or any of their affections, as number and figure, &c.

§ 3. *Secondly*, *πρακτικη*, the skill of right applying our own powers and actions, for the attainment of things good and useful. The most considerable under this head, is ethics, which is the seeking out those rules and measures of human actions, which lead to happiness, and the means to practise them. The end of this is not bare speculation, and the knowledge of truth; but right, and a conduct suitable to it.

§ 4. *Thirdly*, The third branch may be called *σημειωτικη*, or the *doctrine of signs*, the most usual whereof being words, it is aptly enough termed also *λογικη*, *logic*; the business whereof is to consider the nature of signs the mind makes use of for the understanding of things, or conveying its knowledge to others. For since the things the mind contemplates are none of them, besides itself, present to the understanding, it is necessary that something else, as a sign or representation of the thing it considers, should be present to it, and these are ideas. And because the scene of ideas that makes one man's thoughts, cannot be laid open to the immediate view of another, nor laid up any-where but in the memory, a no very sure repository; therefore, to communicate our thoughts to one another, as well as record them for our own use, signs of our ideas are also necessary. Those which men have found most con-

venient, and therefore generally make use of, are articulate sounds. The consideration then of ideas and words, as the great instruments of knowledge, makes no despicable part of their contemplation, who would take a view of human knowledge, in the whole extent of it. And perhaps if they were distinctly weighed, and duly considered, they would afford us another sort of logic and critic, than what we have been hitherto acquainted with.

§ 5. This seems to me the first and most general, as well as natural division of the objects of our understanding. For a man can employ his thoughts about nothing, but either the contemplation of things themselves, for the discovery of truth, or about the things in his own power, which are his own actions, for the attainment of his own ends; or the signs the mind makes use of, both in the one and the other, and the right ordering of them for its clearer information. All which three, *viz. things* as they are in themselves knowable; *actions* as they depend on us, in order to happiness; and the right use of *signs* in order to knowledge, being *toto cælo* different, they seemed to me to be the three great provinces of the intellectual world, wholly separate and distinct one from another.

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